THE COTTAGE GARDENER,

COUNTRY GENTLEMAN'S COMPANION,

AND

POULTRY CHRONICLE.

A JOURNAL OF HORTICULTURE, RURAL AND DOMESTIC ECONOMY, BOTANY, AND NATURAL HISTORY.

CONDUCTED BY

GEORGE W. JOHNSON, Esq., AND ROBERT HOGG, Esq.

THE FRUIT and FORCING GARDEN, by Mr. R. Errington, Gardener to Sir P. Egerton, Bart., Oulton Park.

THE KITCHEN GARDEN, by Mr. J. Robson, Gardener to the late Earl Cornwallis; and Mr. T. Weaver, Gardener to the Warden of Winchester College.

THE FLOWER GARDEN, by Mr. D. Beaton, late Gardener to Sir W. Middleton, Bart., Shrubland Park.

STOVE AND FLORISTS' FLOWERS, by Mr. T. Appleby, late of Victoria Nursery, Uxbridge.

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TO OUR READERS.

Never do we hear the measured, continued, uniform, tick of the old hall clock, than we associate with it the unceasing, onward steps of Time; and, when the Printer announces—"This is the last number of the volume"—we as invariably exclaim, "Can six months have passed so swiftly?" Our clock and our half-yearly volume are truthful monitors, and bid us to look back upon the past as well as to prepare for the future. Indeed, twice a year we stand, like Janus, over that "last number of the volume." We are so doing now, and grateful are we to say, that not a frown, nor a cloud, but many a smile, are upon both our retrospective and prospective brow. There are no clouds, because no promises have been broken; there are smiles, because we have been and hope to continue successful.

Our next volume will complete our first lustrum, and to the present time in not one week of its ten years have we not been entitled to say, "We are fulfilling our mission—usefulness;" and no one volume has a single page which we would cancel if we could. This is no vain-glorying—no utterance of vanity; for the praise is due to other heads, and other hands, and other hearts. Our chief merit is that we keep the post-office for the reception of the dictates of those hearts and heads, and for the taking care that those dictates are properly sorted, and duly delivered.

That we have each fulfilled our parts satisfactorily is testified by our large and increasing circulation, by the inflow of advertisements, and by the expressions of approbation in the letters we receive. For all these we are most grateful, and we accept them, not only as rewards for our past, but as stimulants to our future exertions. "I have recommended all the young men under my charge to take The Cottage Gardener—to have it bound, and to refer to it as a standard work; for there they will find the truth." So writes the head of a well-known garden; and such praise, and such trust, urge us to beware of failing to justify them. No effort shall be wanting on our part, not only to sustain, but to increase our usefulness, and we shall be well contented to have no other praise bestowed upon each volume than those concluding words—"There they will find the truth."

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WOODCUTS.

WEEKLY CALENDAR.

D M	D W	OCTOBER 6—12, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
6	Tu	Gomphrena, purple and white.	29.944—29.922	57—55	E.	06	11 a. 6	26 a. 5	6 21	18	11 54	279
7	W	Golden Rod.	29.926—29.897	59—52	N.E.	36	12	23	6 55	19	12 11	280
8	Th	Autumn Crocus.	30.060—29.904	58—49	N.E.	50	14	21	7 47	20	12 28	281
9	F	Yellow autumn Amaryllis.	30.244—30.120	60—49	N.E.	—	16	19	8 55	21	12 44	282
10	S	Cyclamen.	30.199—30.106	62—43	N.E.	30	17	17	10 15	☾	13 0	283
11	Sun	18 Sunday after Trinity.	30.039—29.972	60—52	N.E.	12	19	15	11 39	23	13 15	284
12	M	Colchicum.	30.160—30.045	64—42	S.	02	21	12	morn.	24	13 30	285

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 60.9°, and 42.9°, respectively. The greatest heat, 81°, occurred on the 7th, in 1835; and the lowest cold, 28°, on the 8th, in 1852. During the period 91 days were fine, and on 105 rain fell.

BEDDING PLANTS AT KEW AND AT THE CRYSTAL PALACE.

Which is of the greatest interest, to plant the largest number of kinds of plants which are suitable to that or this style of flower garden, or to plant the fewest number of plants from which the principal colours can best be obtained? This is a question which will never be settled unless the world were made into one vast garden, and all the "heads" reduced into one head gardener.

I shall not, therefore, push my head against this wall to show which is the best of the two—the bedding at Kew or at Sydenham; perhaps they are both best, though very different.

Beginning at Kew with the great central walk at the lowest end, and working our way up to the lake, we have a single row of flower-beds right and left. All the edges of the beds are at one uniform distance from the walk—three or four feet, I forget which—if the walk were ever so curved in any direction, or ever so long or so short. This style of flower-beds on each side of it in single rows is called the promenade style of bedding. For all limited gardens which are bounded by walls, or hedges, or palings, the promenade style in one single row is the most economical, and the best telling of all the ways of placing beds, and it is the easiest of all plans to plant. All that is necessary for effect is, that when a row is on each side of the walk each two opposite beds should be of the same size and shape, and be planted, if on the bedding system, with plants of the same colours, same height, and same style of growth, and the next bed or pair of beds not to be of a colour which will hurt or lessen the effect of the colour on either side of it.

In large places the opposite pair of beds is planted with the same kind of plant; that is the way at Kew, and used to be the way at Sydenham, but at the latter they have a different way this season all round the Rose mount, which has a circular walk right round it like the rim of a wheel, and six curved walks up the mount like six curved spokes to a wheel. The centre part of the wheel where the axle goes through is the rosary on a deep slope. Each of the six walks goes up the slope by a flight of steps; then there is another circular walk all round the top of the Rose slope, and there is a second slope filled with flowers, and other flights of steps to reach the summit of the mount, which is perfectly flat. All round the edge of this flat top runs a third circular walk, which is trellised on both sides, and arched high up above the head with galvanised iron, Arabesque fashion. The six walks, winding up the mount and up the two flights of steps, cross the top walk and trellis work, and meet on the centre of the flat, where the flagstaff is planted on gravel. The six walks cut the flat top into six divisions, and each division has a long flower-bed in a sunk panel; three of them are a reflect of the other three. The flower slope is in six divisions, of course, and is planted like the top, the one half reflecting the other half. The Rose slope is also, of course, in six divisions, and all of them planted with dwarf-worked Roses, with a row of the common China Rose all round the bottom or outside, and the side next the walk at the top is ornamented with flowers planted in the same style as above; but the beds on each side of the six walks on the grass representing the spokes are planted differently this season, on the plan of contrast; that is, if No. 1 on your right is black, No. 1 on the left is white, and so on.

Therefore you here see our best two public gardens where they have adopted the same style, call it what you please. Have them planted in opposite styles, so that you may be in the fashion, with your walks down the centre of your garden, and a row of beds on each side of them, whether you plant it after Kew or after the Crystal Palace, or if your walk follows the boundary line of the garden, up or down one side, across the top or bottom, and up or down the other side back to the house, you can have beds only on one side, the side next the centre. A similar arrangement exists at the Crystal Palace along the bottom of the centre portion of the terrace garden. All the beds in that row are planted alike, all the circles being yellow, and all the oblong beds scarlet. We also see in these beautiful large places, which are governed by very scientific men, and worked out by the best flower gardeners whom they could find, that there is no straining or hankering after the shape of the beds, such as some people on a small scale puzzle their brains about. Stars and garters, heart and tongue, and kidney-shaped beds, and all fantastical forms and plans for beds are beneath their notice.

To be in the fashion, therefore, we should avoid this common fault, and imitate the dons as much as we can. Depend upon it fashion is a grand thing after all; although it takes awkward turns at times it is sure to right itself in the end.

The planting at Kew, beginning at the bottom of the great centre walk, is on this wise:—Two circles, one on each side, *Général Pelissier* Geranium; two oblong beds, *Ageratum Mexicanum*, edged with *Calceolaria integrifolia* or one of that breed; two circles, *Boule de Neige* and *Patrick's Nosegay*, which is here named *Atro-sanguineum*, or dark blood colour (it has often been noticed in The Cottage Gardener as the *Red Nosegay*, which was raised at Stoke Pogis, Bucks, by Mr. Patrick many years since, "but is little known except in that neighbourhood"); two new oblong beds, planted mixedly for experiment, which is not to be repeated; two circles, Verbena *Wonderful*, dark purple; two oblongs, *Punch* Geraniums (*Punch* is well suited at Kew, and does well in return); two circles, Verbena and *Mangles' Variegated* Geranium. Here I would observe that this slender Geranium is proved at Kew to "do" with all kinds and colours of Verbenas, provided that the Verbena is not allowed to get the master of it. We have not seen it with a white Verbena, but no question about its doing if one likes it. The next two are new oblong beds filled with

standard Roses, with an under crop of dark blue Delphinium, neither good, bad, gay, nor beautiful; four circles in the angles of two cross walks filled with Hollyhocks (see last week); another pair of new oblongs, planted with Roses as above; two circles, *Mangles' Variegated* Geranium and dark Verbena; two oblongs, *Frogmore* Geranium; two circles, Verbena *Charles Dickens;* two new oblongs, planted for experiment, which will not be repeated; two circles, Verbena *Lord Raglan;* two oblongs, *Calceolaria rugosa;* two circles, *Mrs. Woodroffe* Verbena; two oblongs, standard Roses; two circles, *Brillant de Vaise* Verbena round a white Verbena, very good; two oblongs, *Shrubland Rose* Petunia; and two circles to match the last two circles, *Géant des Batailles* Verbena round *Mont Blanc* Verbena, also very good.

Here I would also remark that what I said last year about *Brillant de Vaise* was intended to stop an evil spirit in London—that of giving French names to English seedlings with little knowledge of the French terms, one of my most intimate friends being the immediate aggressor. The Cottage Gardener stopped his mouth and that spirit considerably. I corresponded with M. Nerard at Vaise, near Lyons, nineteen years since, when he sent me a Rose he named after his wife; and *Madame Nerard* is still as good as most of our hybrid perpetuals.

The next two oblongs with *Zelinda* Dahlia pegged down, and the last group had the first two circles of *Cuphea ignea*, same as *strigillosa;* two oblongs, Ageratum, edged with the variegated ditto; the last two circles, in the place of honour, the top of the list, were of *Salvia porphyrata*, edged with the variegated Alyssum. The Salvia was planted on the authority of the "Botanical Magazine," and against the advice of The Cottage Gardener. Both beds failed. (See The Cottage Gardener, Vol. XVI., page 461.) There is a wide circle of gravel at the top here, which is crossed by another walk; and there are four large border beds, one in each division round the circle. Two of them are planted with *Calceolaria amplexicaulis*, and the opposite two with *Punch* Geranium. These were in perfection when I saw them. There is a poverty in the design at this part which tells much against the beauty of the place. A noble walk, admirably planted on either side, ends in a little circle of grass in the centre of a ring of gravel, with the surface of the lake immediately beyond, which surface is first seen from an apparently lower level.

There is a greater error of the same kind at the bottom of the Crystal Palace Garden, where the broad walk avenued with Deodars ends in nothing; but that was not the original design, and it may have been the same at Kew. The rest of the lake scenery at Kew is very good, well furnished, and diversified. What is wanting at the top of the great walk here is some object to hide the lake till you are at the edge of it. Fixed on the green circle in the centre of the gravel ring a large vase with flowers in it, or a flagstaff, would form a central object to the eye coming up to the walk, but neither of them would hide the lake; therefore a raised flower-bed in three steps occupying the space now in turf would be the best, the cheapest, and the most appropriate for the surrounding parts.

First raise an edging six inches high round the grass; then two feet or thirty inches level for flowers; then a rise of fifteen inches with stakes or rustic brickwork; then a level of eighteen or twenty inches for flowers; another rise of one foot, and the top level for flowers. The risers would be hid in summer with the flowers, and might be hid in winter with small variegated and evergreen shrubs. Such beds are not uncommon, and they are cheaper and look better than rustic-basket beds in small gardens. I have made them, and often planted such beds. The top of the highest plants should be from five to six feet above the grass or gravel. The *Atro-sanguineum* Nosegay aforesaid would make a good finish for the top, *Pelissier* or *Richmond Gem* the first circle from the top, and *Punch* a good bottom ring; or it might be planted with other kinds like a bed on the level ground. It is also the best way of "setting off" a shaded bed.

From this centre ring a walk branches off to the right to the conservatory, with two groups of beds as up the main walk, the first two circles of which are planted with scarlet Verbenas, edged with white Verbenas—*Mrs. Woodroffe*, with a band of *Mrs. Holford* round it. The two oblongs following are white, edged with dark purple—*Mrs. Holford* Verbena, edged with *Purple King* Verbena. These are the best two beds in the garden; and what makes them more so is, that the edging is in the right proportion to the body of the bed—fourteen inches wide of purple, and over four feet of the white. Beautiful edgings are too often mismanaged, being generally mere rings, instead of being in proportion in width to the size of the bed. The next two circles to complete the group are botanical failures, *Venidium calendulaceum*, which will not be repeated. The last group has the four circles with blush Verbenas, called *Hippodamie*, and the two oblongs of Petunia *Countess of Ellesmere*, edged with *Mangles' Variegated* Geraniums, the *Countess* looking capital. On the north side of the great conservatory there are eight pairs of oblong beds along the walk through the American ground. No. 1 is planted with scarlet Geraniums and Roses; 2 and 7 with yellow Calceolarias; 3 and 6 with Verbenas *Lord Raglan* and *Brillant de Vaise;* 4 and 5, Verbenas; and 8 *Campanula Carpatica.* Beyond them are ten pairs of pincushion beds.

D. Beaton.

TRANSPLANTING AND PRUNING.

The first of these matters, as the readers of The Cottage Gardener know, has been a subject of much discussion during the last few years. Some have advocated the spring, and for a long period such opinion prevailed. In our days, however, spring planting has few advocates. This arises from two reasons, the one founded on principle, the other on expediency; and when these two meet surely the conviction as to autumn planting is complete. It is well known that there exists in autumn more ground heat, more air moisture, and a greater chance of shade, together with less arid winds. In spring there are much greater chances of fluctuations as to sunlight and drought, together with driving winds and storms, which tell heavily occasionally on newly-planted stocks. But there is yet another view to be taken of the affair. Spring work in the main bears a singular disproportion to that of the months of September and October: we may put March as three to one in this respect. And even in the matter of wind it may be observed that such shrubs or trees as are planted in October become more fixed in their stations than those in spring, although staking may certainly obviate all such matters. These points settled I may proceed to preparatory affairs. Such may consist in deep digging for the lesser shrubs, in excavating and improving the staple for larger specimens, and in providing soils and composts where necessary. The selection of trees and shrubs is another consideration for the planter, especially if he has to purchase. "First in the market best served" is, as to nursery matters, a recognised maxim, and respectable nurserymen may be treated with in this respect.

The preparation of trees of any size is deserving a thought. The taking out a trench around them in the beginning of September, and removing such trees in

the end of October, is deserving of consideration. In most cases abundance of new fibres are created, which are of much benefit to the tree after that removal.

As to pruning matters much may be performed in early autumn from the beginning of October. Now, it should be well understood that the effects of early pruning judiciously performed are to cause the subjects to grow stronger in the ensuing spring. Therefore, whenever reasons exist for increasing the strength of trees, shrubs, or bushes, this practice may be carried out.

As to kitchen-garden affairs the fruits may be taken in their order. The foliage of our bush fruits is soon on the decay, even in the end of September in ordinary occasions; it is, however, scarcely advisable to commence operations so soon. During any part of October, however, such operations may proceed, and the chief point is to take them in order; that is to say, as the foliage begins to fall. There are many, however, which it is not expedient to prune until spring, on account of the blossom-buds. Some things are late in showing the real character of the bloom-buds; for instance, the Apricot, Plums of some kinds, and, indeed, most of those which bear occasionally on the young wood, or wood of a half-spur character. The principles of pruning are few and simple, and it is really astonishing what difficulties seem to present themselves to many persons. Last spring a certain gentleman of some note, who likes to play the amateur and to superintend his own garden, called on me to have an explanation of Peach pruning, and brought a gardener (?) with him; but it seemed almost impossible to convey a correct idea of what was requisite to the gardener; and as to his employer, strange to say, I had explained to him repeatedly the grounds of procedure in bygone years; but, although a talented gentleman, he could not easily comprehend it. Now, to those amateur gentlemen who desire to prune, or learn to prune, I suggest a classification of the habits of their fruit trees to begin with; for instance, the following bear on the young shoots of the preceding year:—Peaches, Nectarines, Vines, Figs, Morello Cherries, Gooseberries, Black Currants, Raspberries. I do not wish it to be understood that they bear on this alone, but that with such bearing on spurs is the exception. Now, the following bear on spurs:—Pears, Plums, Cherries, Apples, Red and White Currants. Here, again, I would observe that although some kinds may bear on the young shoots, yet such is the exception in about a like ratio to the former. In pruning, then, it is plain the objects must be kept separately.

Be all this as it may, there are two other points or principles in pruning which require a few remarks. These are "thinning out" and "shortening back"—the first, above all, an important matter. In ordinary cases without this thinning out fruit trees become crowded with spray, which is not only worthless but injurious, the consequence of which is that the quality of the fruits becomes deteriorated, and the tree ultimately exhibits a melancholy spectacle as a cultivated tree, for it is of such I speak. It would be all very well to meet with a Crab or a Peach tree in its native woods in a state of suffocation. A painter may admire them; but suppose such trees standing in the midst of a highly-cultivated fruit garden, and the most unpractised eye would instantly perceive that their condition was incompatible with the design of the planter. However, therefore, pruners may practise shortening back, it is certain that the thinning out must be duly attended to. As to shortening back the most experienced differ; indeed, there has been too much importance attached to this procedure. This shortening back should not be performed without a reason, the reasons generally being that the development of spurs is required, or that the shoots have grown too long to be consistent or to carry their own weight, or that there is a necessity for the production of more shoots to fill up the tree; or, finally, that the tree is extending too far. In either case the operator must just consider the purpose in hand, and act accordingly.

Whilst speaking of fruit trees let me advert to their planting as a special affair, and in so doing I would point to the evil of allowing the roots to penetrate into an ungenial subsoil.

Everybody almost has heard of that cankerous character of the shoots frequently evinced by trees thus situated; but there is yet another view to be taken of this matter, and it may be taken either singly or in combination. This view consists in the recognition of the fact that deep roots, although quite compatible with the welfare of some of our hardiest British fruits, does not befit equally our tender fruits. Even amongst Apples we have those which are termed orchard trees, and those called tender kinds; indeed, only look at the Newton Pippins of America. Can any one succeed in their culture against a Peach wall in Britain? But if there is a difference even in the Apple, how much more so in such a singular family as the Pear, in which there are all grades of hardihood, from the old *Swan's Egg* up to the old *D'Auch* or *Winter Nelis?* It is evident, therefore, that, although our old orchard trees may endure ordinary subsoils, and be able to "rough it," yet such is not the case with our more tender kinds. The more tender, doubtless, the more pains are requisite both as to root and branch. Soils composed chiefly of fresh loams, of about eighteen inches deep maximum, will be found the best. It is well to observe, also, how small a quantity will suffice. Four barrows to a tree, mixed with the ordinary soil, are enough in most cases.

R. Errington.

SHORT CULTURAL NOTES FOR WINDOW GARDENERS.

(*Continued from page* 342.)

Portulacca.—Sow in a pot under a square of glass in the first week of April. Keep it near the fireplace until the seedlings appear. Place in the window then, but keep close and warm, and cover if necessary with a bit of cloth or paper at night, or even, if very cold, move the pot to the vicinity of the fireplace. Be careful in giving water, or the seedlings will damp off. If very dry let the pot stand three-fourths of its depth in water for five minutes in preference to watering overhead. Prick out in patches in May, and plant out in pots or boxes in June, and either inside or outside of the window you will have a lovely sight when the sun shines. Let the soil be open and light, with sandy gravel on the surface. Save the seed-pods as they ripen. Heavy waterings and heavy rains are their aversion.

Schizanthus retusus and porrigens are as useful as any of the group. For the balcony sow in the first week of April. For fine window plants sow in September, pot off in small pots, and keep in a light, airy place all the winter, the soil being dryish rather than wettish. In March give more pot room, or place three or four plants in a six or eight-inch pot, using light, rich, sandy loam, and draining well, and be careful not to over water until the new pots are getting filled with roots, and in June or earlier you will have masses of beautiful bloom. Save some pods of seed for next autumn, and then throw the plants away whenever they lose their brightness.

Scilla.—The beautiful *hyacinthoides* is, perhaps, the best for the window, but every one of them is beautiful, and requiring little care except watering them when growing, and keeping them dry when in a state of rest.

Sedum.—These are all hardy. *Sieboldii* would, perhaps, be the most striking inside of a window, and most worthy of its protection. *Acre*, with a little soil sprinkled beneath it, would soon cover any unsightly spots, as leads over doorways, and cellars, and coal-houses. *Roseum, repens, &c.*, soon establish themselves in heaps of stones or stumps of

trees, such as mimic rockworks that some like to have on their balconies.

Sempervivum tectorum.—The common roof Houseleek will grow with almost as little attention and less soil than the *Sedum acre*. Its thick leaves enable it to absorb as much as it perspires. I have seen it occupying most of a decaying stump of a tree on a balcony with fine effect. Perhaps the best for the window would be *arboreum variegatum, aureum, Smithii*, and *tortuosum*. They like light sandy soil, and the chief care, as with other succulents, will be to keep them from frost and from having much water in winter.

Sensitive Plant (*Mimosa pudica*).—This cannot be managed well in a window; but if you or a friend has a Cucumber box you might have it easily by sowing seeds in April. Such plants hardened by degrees will stand in the window from the middle of June to the middle of September, and will be a source of much pleasure and inquiry to all young people. I have been told by several different parties that the extreme sensitiveness of this plant was the means of imbuing them with a great sympathy for the happiness of all organised creatures, and a strong desire to become acquainted with the phenomena of natural history.

Senecio elegans flore-pleno rubra.—The best of the Groundsels. Propagated by cuttings, and delighting in rich sandy loam; will do best outside the window after the middle of May.

Silene.—All pretty low-growing Catchflies, biennials and annuals, if sown early in spring in pots under a pane of glass, will bloom early in summer. *Speciosa* is a little tender, but would suit a window. *Ocymoides, procumbens, repens*, and *Schafta* are pretty little plants for a box or vase on the balcony.

Sollya heterophylla.—A pretty, compact, blue-flowering shrub, easily raised from seeds or cuttings, growing in loam and peat, and requiring to be kept from frost in winter, and rather dry then. In some seasons it would stand trained to the outside of the window.

Sparaxis.—For treatment see Ixia. *Bicolor, versicolor*, and the varieties of *tricolor* are, perhaps, the best for windows, and flower generally in the beginning of April.

Sprengelia incarnata.—A pretty, flesh-coloured, Epacris-like plant, that, to do well in a window, must not be too hot or too close in winter. Plenty of air and a temperature from 35° to 40° will suit it. Soil, peat and loam well drained; to be pruned back when done flowering in May and June, kept close for a little, and then placed in a sheltered spot out of doors until the end of September. Propagated by cuttings of short, stubby, young side-shoots under a bellglass.

Stapelia.—I can hardly select from among these fine neighbours for Mesembryanthemums and other succulents, and with very pleasing flowers if kept at a distance from the nose. They should not when in bloom be kept in living rooms. Sandy soil, lime rubbish, and a little cowdung grow them admirably. They cannot have too much sun, nor scarcely too high a temperature in summer, and watering pretty freely then; towards autumn lessen, and then refrain from watering whilst sun light and sun heat exert all their powers. In winter, unless the atmosphere is very dry, give no water at all, and keep at from 38° to 50°.

Statice.—I have seen *imbricata* and *pseudo-armeria* in windows, but in general they require a more regular change of air than can be given in windows. Propagated by cuttings and divisions, and grown in light sandy loam.

Stocks.—For flowering early in spring outside the window sow Ten-weeks in August and September, and Intermediate Scarlet at the end of July. Keep protected after being potted, so as to keep severe frost from them; and plant in boxes about April, using light rich soil well drained.

Thea viridis.—There is nothing very enticing in this farther than that some might wish to be able to show a Tea plant to their friends. Treatment much the same as the Camellia and Orange. Keep the leaves clean; grow in peat and loam lightened with sand; give a temperature of from 38° to 48° in winter; and put the plant in a place sheltered from the full sun out of doors from the middle of June to the middle of October.

Tigridia.—Splendid Iris-like flowers, but more fitted for the flower garden and balcony than the window. Each bloom generally lasts only half of a day or so, but plenty succeed. The bulbs require to be kept in a state of rest and from severe frost all the winter, and to be planted in April.

Tritonia.—For culture see Ixia. Pretty bulbous flowering plants from one to two feet in height. They are all beautiful. *Aurea, concolor, flava, odorata*, and *rosea* may be used as a selection.

Tropæolum.—For balcony railings and hanging from baskets and vases nothing is more beautiful than the varieties of *majus* and *peregrinum* (the Canary plant). Sown at the end of March where they are to bloom, and in soil not over rich. For festooning the sides of a window outside—for being planted either in a large pot or border—few summer climbers would equal *pentaphyllum* (*polyphyllum* of some), with its myriads of reddish green flowers. If in a pot it should be sheltered from frost in winter; if planted out protect the tuber with a heap of coal ashes and a little moss during the winter months. Propagated easily by the young tubers. *Tricolorum* would be a beautiful plant for the inside of a window rather airy in summer. The tubers should only be potted when the tiny shoot begins to move, and placed then in their flowering pot at once, giving water very gently until the pot fills with roots. Sandy, fibry loam and heath soil will grow it well, with a rich surfacing of fine old cowdung when growing away nicely. When the flowers and leaves begin to decay refrain from watering, and when dead give no water until the tubers begin to move, and after they are potted. They are easiest kept removed from the pot a month or so after the foliage has got yellow, placed in silver or other sand, and kept in a cool place free from frost until they begin to grow again.

Tulips (see Bulbs).—For early blooming in windows they should be potted at the latest in October. The *Van Thols* and *Rex Rubrorums* are still among the earliest.

Veltheimia.—*Intermedia* blooms in spring, and *viridifolia* in autumn. Bulbs, growing freely in sandy loam, requiring plenty of water when growing and blooming, little when the foliage begins to decay, and none when decayed until they begin to grow, during which time they must be kept from frost. R. Fish.

(*To be continued.*)

GRAPES GROWN UNDER PECULIAR CIRCUMSTANCES.

(*Continued from page* 407.)

I mentioned at page 407 that the Grape houses were generally low structures, certainly not remarkably so, but possessed in themselves no particular feature but what we meet with everywhere. The Vines were planted inside, but the roots had full access outside, and it was from the outside border that they derived their sole nourishment. The construction of that must, therefore, be regarded as the key to the whole question; and, believing this to be the case, I at once thought the border might be made out of those open nondescript materials which of themselves are almost useless as feeders, but which form good receptacles to receive and give out that nourishment so conducive to the well-being of the plant. In fact, I thought it might be an example of what could be done on Clement Hoare's principle, so much advocated at one time, of letting the roots ramify amongst a bed of stones or other inert substances, and regularly supply them with liquid manure. This conclusion I thought not unlikely when water formed so important an element of their ordinary diet; but I was mistaken. The border was not an open mass of stones, bones, and brickbats, neither did these substances enter much into its composition, the border, in fact, being nothing more than a mass of the ordinary earth of the place, which had been turfy sods, dug and but very little worked amongst prior to the planting of the Vines.

Some drains there were in it to carry off any superfluous water that might accumulate in ordinary times, but altogether useless in times of great floods like the

one I witnessed. Now, a soil that will grow Grapes to such perfection with but little assistance in manurial matters, must necessarily be the one best adapted to maintain a healthy and long-sustained growth; for we all know that the uses of all artificial substances are more temporary than natural ones; consequently, in the case alluded to, the Vines were improving every year in spite of heavy crops, which is seldom the case where a very rich compost is made use of, the latter, it is to be feared, often subsiding into a fat, unhealthy mass, more like unctuous clay or soap than a healthy medium to maintain a vigorous plant like the Grape Vine, while the component parts of a soil naturally suitable of itself remain unchanged by time. True, it may part with some of its soluble portions, and become what is commonly termed poor, but its chemical constituents are the same; and that the soil of the district I speak of was the one that best suited the Vine was, I think, fairly proved by the excellent condition the fruit was in that was growing there, as the treatment the Vines received in the shape of pruning, &c., was of the ordinary kind. The quality of the soil is, therefore, the next thing to look to. This, unfortunately, is a matter not easily explained, as a mere description of a soil conveys but an imperfect idea of what it is; but I may say that it was a black, sandy one, resting on a porous subsoil, which had more the character of a clay than of a sand, yet was not impervious to moisture; but the ordinary products of the adjoining lands might convey some better knowledge of what it was.

I believe the soil I have just described forms the staple of a considerable part of the northern part of Cheshire, and seems well adapted for grazing, the turf being thick, and having an excellent bottom, and the quickness with which a piece of new-sown ground gets a good bottom proves how well it is adapted for that purpose. Potatoes grow also well on it, though liable to disease; Carrots are also good; but the prime vegetable crop is Celery, which is remarkably good, the famed Manchester Celery being mostly obtained from this district. Turnips and all the Cabbage and Broccoli tribe also thrive remarkably well. I do not mean to say that they survive the winter better than elsewhere, but they grow well, as likewise do Lettuce and some other things. I am not aware whether Asparagus answers, but I should think, perhaps, not very well; neither did I see any very good crop of Onions. The ground seems better adapted to grass than corn crops, as the wheat, though pretty good, was not so well headed as it is in some places, and the best thriving forest trees were Oaks and Poplars, Elms, Beech, and Larch Firs not doing so well, and the quickset hedges were not so good as are often seen elsewhere.

I cannot conclude this article without mentioning that in some houses and pits adjoining the graperies some very good Pines were grown. In one house there were upwards of 450 all in fruit, and nearly all of one kind—Montserrats—which are especial favourites here. In fact, over most of the north of England this Pine is of more repute than it is around London. Those in question were grown in pots, and being of uniform growth, and all about advanced in fruit alike, looked remarkably well, and had the Grapes not been a subject of particular attention, they might have received a higher meed of approbation. As it was they looked well, and reflected great credit on Mr. Clark's gardener, Mr. Summers, who seemed well versed in everything connected with his calling, and, with the urbanity which forms a leading feature in the character of gardeners in general, freely communicated everything connected with the growth of the things under his charge, which in their respective growths were not exceeded by anything I had seen in the ramble of a week or more in that neighbourhood.

J. Robson.

THE STEWARTON HIVE.

Last month I intended to have sent you the result of a trial of the Stewarton hive, and am this morning (19th of September) reminded of my neglect by reading the account Mr. Tegetmeier has given in your paper of September 8th, just received.

In May last I received the hive, consisting of four boxes, from Mr. Eaglesham, with directions to place *a swarm* in *two* boxes, which in very favourable weather (we certainly have had as much as usual this summer) would be filled in about fourteen days; then a super was to be furnished, and when the bees had begun fairly to work therein the fourth box was to be placed below the stock box. Nothing was said as to the *size* or *weight* of the swarm that was to occupy the *two* boxes.

On the 5th of June I placed a 3¾ lb. swarm in *one* box, convinced by close observation during seven years that two would be too much space for any *southern* swarm, and put it into the same place the stock had occupied from which this swarm had issued. A vast number of outlying bees, in a mass about the size of a small cap hive, lay outside the entrance, and were peaceably admitted on its being opened. The destruction of drones in the parent stock immediately commenced, and now it is so weak in bees that I fear it will be unable to resist the attack of wasps and retain sufficient food for winter. Its contents weighed, 28th of August, 15¼ lbs.

In eighteen days I observed comb at the window of the Stewarton box, and then a super was given to it, in which the bees at once began their work. On the 29th of August I took the whole up. The weight of the lower and upper box, in which three pieces of comb had been made, was, including bees, 30 lbs., and from this I ran 18 lbs. 5 ozs. of honey.

Now, looking at this result in connection with those given by Mr. Tegetmeier, I must say that I see no advantage in the Stewarton hive over and above other hives adapted for storifying for *us* in the *south*, and from the *difficulty* of moving the wood slides, fitting in the small pieces, and the danger of breaking the ends of the slides, as they must project, I do not think they are to be preferred to a Neighbour's hive except as to *price;* and if, in this respect Mr. Neighbour would learn a lesson from our northern friends, his hive would be decidedly preferred. He would gain by the increased sale, and the *public* an advantage by the reduced price.

Mr. Eaglesham says, as Mr. Tegetmeier informs us, "Our success is certainly owing to the strength of our swarms." I should rather say to the *excellent bee pasture* they have. A southern swarm of equal weight to a northern will not, except in the most favourable situations, gather so much honey. In the north the bees have two harvests, the summer *flowers* and the autumn *Ling*. If our spring and early summer are favourable we do fairly; but if they are cold and unsettled, with wind at north or north-east, the bees have little opportunity afterwards for gaining much from the few flowers that remain when hay time is past.

Mr. Tegetmeier is right in saying it cannot be too deeply impressed upon all bee-keepers to have strong swarms, and in a future communication I will, if you please, give you the results of two or three strong swarms that issued in a past year. These I think will show you that even with a strong swarm we in the *south* can hardly expect to reach the results obtained by our friends in the *north*.

It has often occurred to me that if three or four of your bee correspondents would agree to give the result of their observations on certain points and at certain times with reference to two or three stocks they would be much interested, and perhaps, through your kindness, many of your readers profited. These observations might be forwarded to your apiarian conductor, who, if he thought fit, might put questions thereon. To the expense he might thereby incur each correspondent would contribute. I would propose to begin on the 1st of October or 1st of November with three or four stocks, by stating the *kind* and *size* of hive, *weight* of contents, *age* of queen, how *placed*, &c. —B. B.

ENTOMOLOGICAL SOCIETY'S MEETING.

The September Meeting of the Entomological Society was rather a flat one, although attended by M. Chevrolat and Mr. Thomson, both of Paris, the latter being an American gentleman, who, although but young, has, by his great liberality and wealth, been enabled to acquire one of the most extensive and valuable collections of foreign *Coleoptera* ever yet formed, and who has already given good promise by the publication of several works of merit, especially the commencement of an illustrated monograph of the *Cicindelidæ*. Several parts, also, of his *Melanges Entomologiques*, on the plan of Mr. Westwood's *Arcana Entomologica*, were also on the table, together with an extensive series of the publications of the Royal Academy of Brussels and the Zoological Society of London, with various works by Messrs. Barthélemy, Chevrolat, Walker, and Wollaston. Mr. Walker's donation consisted of another of his laborious catalogues of a portion of the Lepidopterous collection of the British Museum, and Mr. Wollaston's was an abridged and supplemental catalogue of his great work on the Coleopterous insects of Madeira, which has been printed by order of the trustees of the British Museum, that establishment having acquired all the type specimens described by Mr. Wollaston. This system of acquiring typical specimens named by their authors, which has latterly been pursued to a considerable extent by Dr. Gray, the head of the zoological department in our National Museum, cannot but result in the collections of that establishment becoming one of the most valuable, as it is already one of the largest, and certainly the best preserved in existence.

Mr. Foxcroft sent for exhibition a very fine series of the rare moth, *Aplocera flavicincta*, taken on the north side of Schihallion.

Mr. Samuel Stevens exhibited a specimen of the gigantic beetle, *Dynastes Mars*, taken by Mr. Bates on the banks of the river Amazon. Only two or three specimens of this fine species had hitherto been sent to Europe. He also exhibited a number of beautiful insects recently collected in Celebes by Mr. Wallace, including new and magnificent species of the genera of Butterflies, *Papilio*, *Danais*, and *Cethosia*, as well as of the great Carabideous genus, *Catadromus*.

Mr. Frederick Bond exhibited three new or very rare species of *Tineidæ*, recently reared by himself, belonging to the genera *Depressaria*, *Glyphipterye*, and *Coleophora*.

Mr. George R. Waterhouse noticed the discovery of several new British species of the genus *Cryptocephalus* in English collections, where, for the most part, they had been confounded with specimens of allied native species. Among them was *Cryptocephalus imperialis*, from the Gog Magog hills, Cambridgeshire, and *Cryptocephalus variabilis*, very similar to *Cryptocephalus 6-pustulatus*.

A notice by Mr. Steadman was read of the occurrence of a web-spinning species of *Acarus* on Fuchsias and Balsams. Various instances were communicated by different members of the capture of specimens of the migratory Locust at Primrose Hill, Wellesden, Brighton, the New Forest, &c. We have since heard of the capture of several specimens in Lancashire, one of which has been exhibited for some time alive in the Museum at Peel Park, Salford, where it has attracted great levees of visitors. Mr. Samuel Stevens also mentioned the capture of a living specimen of *Sphinx Nerii* near Brighton. Some notes on the habits of the Butterflies of the Amazon Valley by Mr. Bates were also read.

FOOD FOR BEES.

The story that is going the round of the journals about *Tilseed* as food for bees is probably one among the hundreds of other marvels which the public are periodically expected to swallow respecting these insects. We know of no better explanation than the reading of *Linseed* for *Tilseed*, especially as we find the substance in question is mentioned as having been pressed into *cakes*, as is the case where the oil is extracted from Linseed, and then, reduced to powder, is used for fattening cattle, as well as a manure. In the present instance the story informs us that the powdered cake had been made into a paste in a tub for manuring Potatoes. It is possible that after fermentation bees might be attracted to the spot. There is no difficulty in trying the experiment with those who choose to believe the concluding marvel, that the quantity of honey is increased *tenfold* with a vast "reproduction of the insect." We wish them every success, but we warn them to be prepared for disappointment.

It may be that by "Til" is meant the seed of the Tare or Vetch, for in some parts of southern England it is so called. Parkinson, writing more than two centuries since, says, "We in English call them *Lentills*, but the country people in Hampshire and other counties call it *Tills*, leaving out the *Lent*." We insert this in answer to two or three correspondents who have written to us on the subject.

QUERIES AND ANSWERS.

FAILURE OF YOUNG SCOTCH FIRS.

"Our young plantations are on an exposed part near the sea, on the east coast in Aberdeenshire, and were made six years ago principally with Scotch Fir, a sprinkling of Silvers, and Larch; in the more sheltered and better soils hard woods. They have done remarkably well considering the situation up to this season. In the early part of July, and in one night's time, a serious blight attacked the Scotch Fir. Two-thirds are completely killed; others have two or three tiers of the lower branches quite safe, but the tops entirely gone.

"What makes it the more remarkable is, that groups of them stand in this way with a vigorous plant here and there quite uninjured. Not the slightest appearance of this malady is seen on the other plants, which are considered of a more tender constitution. The plantation is on a rising, dry, rocky ground, with different aspects, about three miles from the sea, by the side of a river where the tide flows farther inland.

"I am at a loss to hazard a conjecture on these effects, but hope to glean some information through the medium of your valuable periodical."—H. A. C.

[Probably the blight, as you call it, is caused by an insect. Have you examined the young trees closely? Pray do so if you have not, and send a small branch to our office. We will then examine it and give you further information. It cannot be the soil, for had that been faulty the trees would have suffered long ago; neither can it be the sea air, for that must have been blowing on them during the whole time since they were planted. It is impossible to give a decisive answer to your curious question without seeing the plantation. We can only advise you to cut down all the Scotch Fir, and plant in its place some *Pinus maritima* and *Pinus Austriaca*. These will bear the sea breeze well, and much better than the Scotch Fir, and are not so liable to be attacked by insects. Regard this point—be sure and burn all the diseased trees immediately. As the Larch continues healthy you might plant a lot more of that good timber tree.

Pray send us the result of your examination, as there may be many more cultivators in the same plight, and the remarks on the subject will be equally acceptable to them as to you.

Is your soil deep or shallow, and of what nature is the subsoil?]

SEEDS OF TIMBER TREES.

"I shall be glad if you would tell me the method how and when to pull, preserve, sow, &c., the seed of the following forest trees:—*Fraxinus excelsior*, *Acer pseudo-platanus*, *Æsculus hippocastanum*, *Alnus cordifolia*, *Cratægus oxyacantha*, *Fagus sylvatica*, *Larix Europæa*, *Picea amabilis*, *Pinus Austriaca*, *Ulmus campestris*."—J. O. G.

[Forest-tree seeds are gathered when they are ripe. Such as ripen late in the autumn should be well but slowly dried, and put away in bags till spring. The Fir tribe, such as the Larch, the Silver Fir, Cedar of Lebanon, &c., should be

gathered about November or December, as the weather will permit. They should be laid in a warm room where brisk fires are kept. The heat will cause the scales to open, and let the seeds drop out. In obstinate cases it may be necessary to drive an iron peg down the centre of the cone, forcing it open to get out the seed. The Cedar of Lebanon has cones so hard and close that it requires considerable force to get at the seed.

The seeds of *Fraxinus excelsior*, or common Ash, may be gathered as soon as the leaves fall off the trees, dried, and kept till spring, or they may be allowed to hang on till February, and then gathered and sown directly. The Mountain Ash bears, as is well known, red berries. They contain the seeds amongst the pulp. Gather them when ripe, crush the berries, and wash the pulp away in water, draining it through a sieve fine enough to retain the seed. Spread it on paper to dry, and then put it in paper, and keep it in a dry room. Sow in prepared ground in April. *Acer pseudo-platanus*, the common Sycamore, ripens its seeds in July. They should be gathered then, and moderately dried, and kept in as cool and dry a room as possible; if warm and moist the seed will sprout and spoil. Sow in March. *Æsculus hippocastanum*, the common Horse Chestnut, ripens its nuts in October. They are inclosed in a prickly shell, which bursts naturally, and the nuts may be gathered easily. *Cratægus oxyacantha*, the Cockspur Thorn, ripens its seed in November and December. It should be treated the same as the common Thorn, that is, the berries or haws should be gathered about October, laid in a heap, and covered with soil for a year; then taken out of the soil, and sown in either beds or rows (the latter is preferable), and they will come up the year following. *Fagus sylvatica*, the common Beech, ripens its nuts in the autumn, and should be gathered as soon as they are ripe, or the squirrels and mice will destroy the best nuts, or conceal them for winter food. They should be gathered on a dry day, and placed in a dry room secure from vermin till the sowing season arrives. That season is April, for if sown sooner the late frosts will kill the young trees. The ground should be dug deep, and be well drained if necessary. It should be in good heart; that is, the year before it should have been under a crop of Potatoes, Turnips, Celery, or any other crop that requires well manuring. Then draw drills a foot apart, and one inch and a half deep. Sow rather thickly, for some may not grow.

Larix Europæa is the common Larch. I have already described how the seed should be gathered, cleaned, and preserved. To raise the plants it is needful to prepare the ground with great care. It should be ridged up in the autumn to receive the benefit of frosts, and be levelled down in the spring, chopping it very fine as the operation goes on; then towards the end of April, during dry weather, set out the beds three feet and a half wide, with two feet alleys between. Draw with a rake one inch of the soil into the walk, taking half the bed to one side and the other half to the other side; then sow the seed evenly over the bed, and cover it exactly half an inch deep; then level the surface with the back of the rake, and the operation is finished. Nursery labourers are very proud of their skill in this part of their business, and certainly some of them are very expert. The beds look so neat and tidy that it is really a pleasure to view them.

Picea amabilis (the charming Silver Fir). I fear there is little hope for years to come of this fine species bearing mature seed. Whenever it does it should be managed exactly in the same way as the common Larch.

Pinus Austriaca requires also the same treatment.

Ulmus campestris (the English Elm). This tree ripens its seeds in June, giving the cultivator time to sow them and get the plants up the same season. The ripening of the seed is easily known by its falling from the trees. It may then either be swept up, or the gatherers may with ladders pluck the seed off the branches. The ground should, of course, be ready to receive it, and then the seed should be sown immediately.

Alnus cordifolia does not ripen its seed till late in the year; hence it requires to be gathered, cleaned, and kept till the following spring. As the seed is very small it should be covered very lightly.

One point must be carefully attended to in raising such forest trees as have small seed. In dry weather it is absolutely necessary to water freely and regularly, for if the seed once sprouts and the soil is dry the infant plant will perish.

I hope I have answered our correspondent fully and satisfactorily, and I trust such information will be acceptable and useful to many of our readers. I shall at some future time give similar directions on raising many shrubs from seed.—T. Appleby.]

WEEDY BED OF LILIES OF THE VALLEY.

"I have a bed of Lilies of the Valley which is now a mass of weeds. Would it hurt the bulbs to take them up, divest them of the weeds, and divide them? They always flower very well, but at this time of year look exceedingly untidy in consequence of being so completely enveloped in coarse grass."—E. C. T.

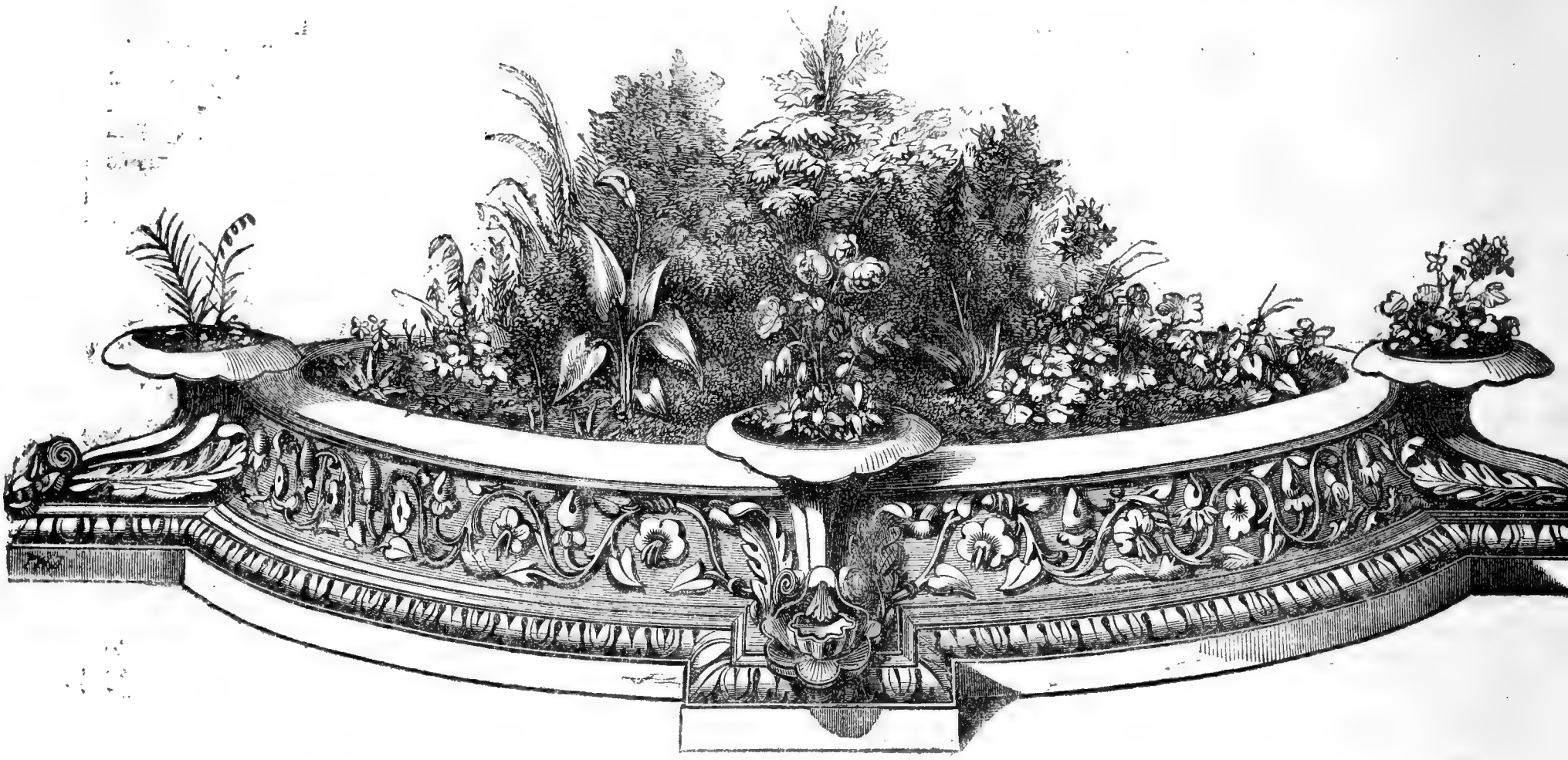
[It is very dangerous meddling with beds of Lily of the Valley, though they be so full of weeds. There is not a plant in our gardens more difficult to "understand" than this one. Where the soil suits it nothing will prevent it blooming most profusely; north, south, east, and west aspects are the same to it; full exposure to the sun and to all the winds, ditto. Under the shade and shadow of one of the finest Oaks in Surrey, on the chalk formation, and not many miles from the good old posting-town of Reigate, we have seen the Lily of the Valley bloom most profusely for years and years, and we have seen the best practical gardeners in the country put to their wits' ends to get a handsome "bunch" of it. We know places where it will only bloom under a north wall, and others where that aspect would be fatal to it, and so forth; therefore beware of how you proceed with your bed. Take up only one-half of it this autumn—October is the best time to move it; but can you recognise its "roots" from those of the Couch Grass which run amongst it? You mention its "bulbs;" but this Lily has none, only long, creeping roots, and as much like those of Couch Grass as any two kinds of roots you ever saw. It would not be difficult to "cut out" a handful of "roots" from your bed which would baffle the science and practice of a good gardener to distinguish the one kind from the other. Therefore again we say, take heed how you disturb a bed of the Lily of the Valley. Proceed thus:—Trench down at one *end* of the bed till you get below the layer of roots—they do not run deep—then work out the roots with a fork; those of the Lily of the Valley have a thick, knob-like point to the growing ends; select all such, and take six inches of the roots back from the knob ends; place these, with the thick ends all one way, in rows across the new bed, four inches from root to root, and the next row six inches from thick end to thick end, and so on to the end; then cover them just four inches thick; leave one-half of the bed as it is till you see the new bed in bearing.]

ROSES FOR STANDARDS IN BEDS.

"Will you furnish me with a list of sixteen standard Roses to be planted in two circles several feet apart round a centre bed? I wish for those which will form the best variety as to colour, and will continue longest in bloom."—R. T. E.

[1. Crimson Perpetual, or Rose du Roi. 2. Magador. 3. Baronne Prevost. 4. Géant des Batailles. 5. Duchess of Sutherland. 6. Auguste Mie. 7. Robin Hood. 8. William Griffiths. 9. Général Jacqueminot. 10. La Reine, if the ground suits it. 11. Madame Rivers. 12. Queen of Bourbons. 13. Souvenir de Malmaison. 14. Souvenir de l'Exposition. 15. Gloire de Paris, &c. 16. Dupetit Thouars. The last five are Bourbons, the rest hybrid perpetuals, embracing the best *bed* qualities of the breeds.]

RANSOME'S PATENT SILICEOUS STONE.



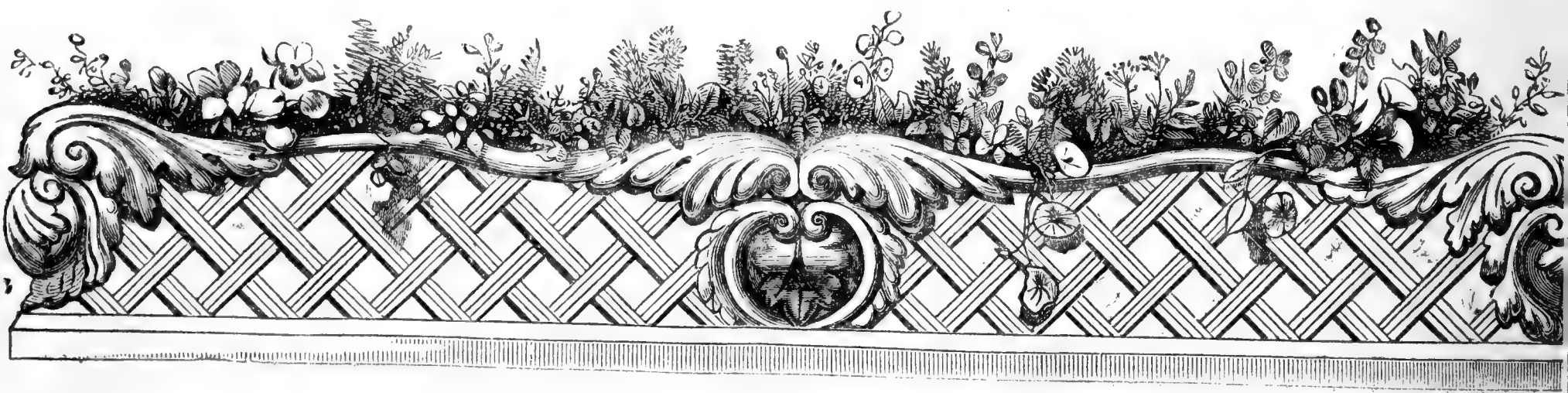
No. 1.

It is a grand thing in ornamenta gardening to have some really good substitute for stone, for though the raw material is cheap enough, the sculptor's chisel puts architectural decorations out of the reach of those who were not "born with silver spoons in their mouths."

A week or two ago I was looking over the garden of a friend, one who really *has* a garden, and I spied a pair of vases that had been thrust out of the way as useless, and on attempting to take one up for examination it fell to pieces, and became "a crumbled ruin," that "time had *not* crushed within his grasp." Now, that pair of vases cost a round sum of money only a year before, but the frost of one winter settled them, and the frost of every winter settles a good many such things. We want a composition that will look like stone, wear like stone, and bear moulding to any artistic design, so as to rival the sculptor's work at one-tenth of the price; and if you hunt the country from one end to the other you will find plenty of "artificial stone works," but few that produce any better article than the "best plaster." I would not include such houses as Cottam and Hallen, or Seely and Austin, in the category of workers in plaster, because their goods have stood the test for years; but all the old cements, even the very best of them, have very special defects, and one is, that the material itself has a very dead look. It is like stone to be sure, but it is stone with no grain in it; the eye detects the sham. It looks soft even if it is not so, for it lacks that hard, durable, and stony look which real stone always has, and which reminds one of its imperishability, and the wonderful transformation it has undergone in the hands of the artist.

In fitting up a Fern vase last spring I bethought me of Ransome's siliceous stone, and after inspecting the stock at Cannon Row, Westminster, made a selection of a fine example of floral sculpture, which the Messrs. Ransome call No. 26 of their vase patterns. (No. 3.) This now ornaments my drawing-room window at Newington, the glass lantern having been fitted by Messrs. Treggon, of Jewin Street, and the Ferns supplied by Mr. Sim, of Foot's Cray. I was so pleased with the chaste design and material of this vase that I gave a little special attention to the manufacture, which is being so largely developed by the company at Ipswich, and I here desire to commend the patent siliceous stone to all readers of The Cottage Gardener.

It is, in the first place, a real stone, so to speak, for the principal material of its composition is silica, which is moulded in a loose form into the required design, and then converted into a solid mass by heat with the assistance of an alkaline flux, which cements the particles together. In its chemical composition, then, as well as in its mechanical structure, it is a manufactured stone, and *not a substitute for stone.* Its appearance is bright and crystalline, resembling sandstone of the very best quality, and in that respect it is quite equal to the Craylieth stone, which has a great fame for artistic purposes. But a still better quality is its durability: it seems to possess the very "adamantine hardness" which is inseparable from the *idea* of stone, though so few natural rocks possess it. This arises from its perfectly



No. 2.

homogeneous nature: it is of one uniform structure throughout, whereas most rocks consist of hard and soft materials

No. 3.

mixed together, and, as the softest are soonest disintegrated, the surface loses its character, and the stone becomes what

No. 4.

is generally called "worm eaten." I have had several opportunities of examining works in this material which have been exposed for several successive winters, and the most delicate parts of the moulding still retain their sharpness, and the whole surface its beautiful colour and close texture. (No. 3.)

It is not to be wondered at, then, that this stone should have taken the first place in the market. It has met with the highest approval of Professor Ansted, who exercised his critical judgment on it as one of the jurors of Class XXVII. of the Exhibition of 1851. Professors Henry Faraday, Hunt, and Garrod, Sir Henry de La Beche, Mr. Phillips, the geologist, and many other eminent scientific men have described it as one of the most useful inventions of the age, not merely for garden decoration, but for the manufacture of mill stones, filters, and for all architectural

No. 5.

and building purposes for which stone would otherwise be employed. An instance of its inveterate character as distinct from all the compositions in ordinary use occurred when Mr. Ransome was directing the application of it to a portion of the external wall of the new Houses of Parliament. The workman employed had accidentally allowed some splashes of the solutions to fall from his brush upon the stone floor. The effect was supposed to be little other than would have resulted from the ordinary process of white-wash; but upon the workman being ordered to wipe up the mess he had inadvertently made, it was found that no ordinary scrubbing with soap and water would in the least degree remove it; in fact, it only rendered the spots more apparent. The insoluble deposits had so penetrated into the structure of the stone, and had become so thoroughly incorporated with it, that it was impossible to remove them without actually refacing the stone. This little incident, though at first a source of some annoyance to the inventor, at once evidenced the value of the process when properly applied.

The discovery of the method of manufacturing this stone was not made in a hurry; it was the result of patient thought and careful experiment, and really arose out of Mr. Ransome's determination to produce a material that should be

superior to stone for use in flour mills, so long ago as 1844. The perseverance that at last carried the idea to a triumphant issue was equally active in applying it to all possible uses, and in these no commonplace discretion or taste was evinced. Let any one look over the splendid examples of high art as worked out in this cheap and everlasting material, and say if art has not benefited by it, though its very object is to displace the sculptor's chisel. (Nos. 4 and 5.)

If there is no compound to compare with it for excellence, so there is no manufacturer of cements who can show such a collection of magnificent designs applicable to all sorts of purposes. A few of these are here figured. The vases are beautiful objects, to which woodcuts cannot do justice; but the newest thing turned out at Ipswich is the *jardinet*, here represented as it appears when planted. (Nos. 1 and 2.)

This is a grand addition to the masonry of the terrace garden, and, well planted, makes a fine figure, the chaste ornamentation and clean snowy rim contrasting beautifully with the flowers, and on either gravel or turf its tone is highly classical and unique. It just reminds one of the Italian style carried to perfection. It measures six feet across, and is one foot deep; but of course any depth of soil may be placed within it, or it may be fitted to a bed already planted.

I need only add here that, considering their excellence in every respect, the charges for these productions are extremely low, in no case more than the best cements, and that the material admits of every possible modification, either for facing buildings, the construction of mill stones, monuments, columns, bases, capitals, balconettes, vases, fountains, garden ornaments, and even rockwork and grottoes; in fact, everything that looks well or does well in stone, but which if made of stone might prove far inferior, and ten times dearer than this well-compacted substitute.—Shirley Hibberd.

BEDDING-OUT PLANTS.

The following is a selection from the principal families of bedding plants, for which I am indebted to Mr. Craig, the flower gardener at Kew.—D. Beaton.

GERANIUMS.

Scarlet.—Punch, Tom Thumb, Frogmore, Trentham Scarlet, selected from two dozen.

Cerise.—Lady Middleton, Cerise Unique, Général Pelissier, and Judy.

Various. — Atro-sanguineum, Harkaway, Lucidum, and Baron Hugel.

Pink or Rose. — Guelder Rose, Hydrangeaflora, Lady Holmsdale, Princess Alice, and Countess of Bective, all for pots.

Variegated Foliage.—Flower of the Day, Bijou, Annie, Brilliant, Mangles' Variegated, Countess of Warwick, and Alma: the last two I have not rightly proved.

PETUNIAS.

Shrubland Rose, Shrubland White, Gem, Countess of Ellesmere, and Imperial (for pots only).

VERBENAS.

Scarlet.—Defiance, Mrs. Woodroffe, General Simpson, Lord Raglan, Brillant de Vaise, and Géant des Batailles.

White.—Mrs. Holford and Mont Blanc.

Purple.—André, Purple King, and Blue Bonnet.

Blush Rose and Pink.—Hippodamie, Reine des Amazones, Grandis, and Charles Dickens.

Violet Plum.—Field Marshal.

Dark Scarlet.—Tommy.

French White.—Bernice.

CALCEOLARIAS.

Amplexicaulis, Salviæfolia, Trentham Yellow, and Rugosa (variegated).

FUCHSIAS.

Dark. — Wonderful, *Prince Albert, *Glory, Autocrat, Volcano di Aqua, *Monarch, *Globosa Magnifica, *Inaccessible, *Carolina, and *Viola flore-pleno. Those marked * I have proved to do well out of doors.

Light.—*Duchess of Lancaster, *Queen of Hanover, *Bride, Clio, Maid of Kent, and Venus de Medici.

White Corolla.—Countess of Burlington and Princess Royal.

N.B.—The Verbenas are selected from about eight dozen varieties, and I believe them to be good, profuse bloomers and the best of it is they continue a long time in bloom. I do not speak of them with regard to fine-formed flowers. Fuchsia *Carolina* is still the best for single specimens out of doors, although there are others of those marked very good. *Viola flore-pleno* does best out of doors here.

MEETING OF THE BRITISH POMOLOGICAL SOCIETY.—October 1st.

On Thursday last a Meeting of the British Pomological Society was held at the rooms, St. Martin's Hall, Long Acre. Mr. Hogg, V.P. in the chair.

Two bunches of *Black Prince*, and two of a variety of Chasselas Grapes called *Lawyers' Sweet-water*, were brought by Mr. Paul to show the results of the heat of the past summer. Both of these varieties were grown in the open ground tied to stakes in the same way as they are cultivated in the vineyards on the Continent; and both varieties were well grown and in a fair state of ripeness, and the berries of the Black Prince were beautifully coloured.

Mr. Thompson, of Bramham Hall, Yorkshire, again sent some bunches of his *Black Hamburghs*, grown against a wall warmed by the superfluous heat from the houses, and they were very well flavoured; but we regret that on this occasion, as well as the last, Mr. Thompson had to state in a communication that these were not so good as some he had gathered. We could have wished that Mr. Thompson had kept one bunch for the purpose of sending to the Meeting, as it is important in such matters that the Society should have an opportunity of judging of the highest possible degree of excellence to which such subjects can be brought, as it is for the encouragement and promotion of such that the Society has been particularly instituted. Mr. Thompson also sent a specimen of his Grape guard, a very useful and certainly most effectual contrivance for protecting Grapes from the attacks of wasps and flies. There could be no doubt about the applicability of these to the purpose intended, and the chief question which arose was that of expense. It was stated that the cost of each is from 1*s.* 3*d.* to 1*s.* 6*d.*, which becomes a very serious affair when the value of out-door Grapes is taken into account even after they are ripe. The Meeting highly approved of the contrivance, and suggested that if they could be made for, perhaps, half the cost, or less, they would supply a great desideratum.

Mr. D. Ferguson, of Stowe, sent some loose berries of a Grape without a name, which he thought resembled Mr. Snow's *Muscat Hamburgh*, but which neither in colour, shape, flavour, nor in any other particular, had the slightest relationship to that variety. It was a nicely-flavoured Grape, but the Meeting could form no opinion of it unless it was seen in the bunch.

Mr. Rivers, of Sawbridgeworth, had a collection of late Peaches, among which were very nice specimens of *Bourdine*, which showed their perfect identity with *Téton de Venus*, all being furnished with a very prominent nipple on the apex of the fruit. In some seasons this variety produces fruit without the nipple, but there can be no doubt but that the two are either synonymous or so closely alike as to be at

most only very slight seminal varieties. An excellent late Peach is *Montagne Tardive*, a variety which Mr. Rivers obtained from Holland. It is of a lively green colour, marked on the side next the sun with broken, dark red stripes. The flesh separates freely from the stone, and is melting, juicy, sweet, aromatic, and vinous, and very slightly tinged with red next the stone. *Gregory's Late*, which is red at the stone, was not equal to the preceding in flavour; but it was evident that this variety, which is usually excellent, was not in its best state. *Desse* is also a late variety, and perfectly distinct from the preceding, being of a very pale, almost waxen colour, covered on the shaded side with numerous minute red dots. The flesh separates freely from the stone, where it is of a pale pink colour. It is melting, very juicy, sweet, and aromatic, and is, perhaps, the finest of all the late Peaches. The flowers are small, and the leaves bear globose glands. The tree is said to be very hardy, and bears well.

Mr. Turner, of Slough, sent specimens of the *Salway Peach*, a variety which was submitted to the Society on a former occasion so late as November. Evidently on account of the late excessive heat those present were prematurely ripened, and were lacking that juiciness and vinousness which characterised those originally submitted. They were, in fact, rather pasty, like the *Alberge*.

Messrs. Veitch, of Exeter, sent specimens of a seedling Nectarine, and of the *Syrian* Peach. The former is a very large fruit, and quite green in colour, with a little dull red on the side exposed to the sun. It was scarcely ripe, and hence the flesh cut rather firm, but it was very juicy, remarkably sweet, and with all the flavour of the Stanwick. The kernel is sweet and the flesh adheres to the stone. This is, therefore, a *Clingstone Stanwick*, which would, in fact, be a very appropriate name for it. Unlike the Stanwick it has the property of not splitting the stone. The *Syrian Peach* is the type of a new race of Peaches, as the Stanwick is among Nectarines. It has a sweet kernel! The flesh separates freely from the stone, is very melting and sweet, and has a remarkably fine and rich flavour. This we regard as a great and valuable addition even to the already very numerous varieties at present in cultivation. Messrs. Veitch also sent specimens of a seedling *Thin-shelled* Nut. This is large, widest at the top, and narrowing towards the base, of a pale brown colour, and banded with dark brown streaks throughout its whole length. It struck us, however, that the shell is not so thin as that of the Cosford. The kernel is large, firm, and nicely flavoured; and if the plant is a good and early bearer, with a compact habit of growth, it cannot fail to be a desirable acquisition.

Of miscellaneous fruits Mr. Rivers brought specimens of *Belle Agathe Cherry*, a variety about the size of a Merry, and heart-shaped, with a firm Bigarreau flesh, and of excellent flavour. The colour is dark red. A Cherry in October is valuable, and one which the birds and insects will not touch is doubly so. *Belle de Septembre Plum* is a very excellent kitchen variety, with rather more flavour than kitchen varieties usually have late in the season. We have seen it cooked, and its juice is of a beautiful lively crimson, as if coloured with cochineal. It also makes an excellent preserve.

A specimen of the *Golden Pippin* was also on the table, taken from a tree eighty years old, and was, both for size, flavour, and colour, all that could possibly be desired, as if ignoring the very idea of such a theory (for theory it is) as degeneracy. It was tasted along with *Sudbury Beauty*, brought by Mr. Whiting, of the Deepdene, and was found to be incomparably superior to that variety, which was so much extolled by the Horticultural Society a few years ago.

Mr. Turner brought a dish of the fruit of *Eugenia Ugni* grown at Slough in the open air. They were the size and shape of the berries of the Hawthorn, and pretty much the same colour, but perfectly ripe. The taste is that of the Black Currant flavoured with allspice, and without its prevailing acid, being, in fact, rather sweet. This fruit is certainly very agreeable to taste, but we do not think it is one which can be eaten to any extent, or which will establish itself as a recognised fruit in this country. It wants succulence, as its substance is rather dry. When novelty has passed and other subjects have engrossed public attention *Eugenia Ugni*, as a fruit-bearing shrub, will, in our opinion, retire to enjoy a quiet respectability among other half-hardy exotics. Should it be otherwise the taste of the fruit-eating portion of society must materially alter.

Mr. Whiting, of the Deepdene, submitted for examination specimens of Pears, among which were *Thompson's* and *Comte de Lamy*, both exquisite in flavour, and certainly two of the best Pears grown. *Napoléon* was very badly grown, and execrable in flavour, and Mr. Whiting stated that it was always so with him, and was evidently not adapted for his description of soil round Dorking in Surrey. These are facts worth knowing, as generally the Napoléon is one of our best Pears. There were also excellent specimens of *Althorpe Crasanne*, well ripened, and with their fine flavour of the old Swan's Egg which many admire, but which, perhaps, as many reject.

Collections of Pears were produced by Mr. Rivers, of Sawbridgeworth, and Messrs Paul and Sons, of Cheshunt. Among the former were *Beurré Rouge d'Amboise*, generally supposed to be the same as Brown Beurré, but certainly in this case distinct. They were grown on horizontal trellises almost close to the ground, but the flavour was inferior. *Paradis d'Automne* is a small pyriform fruit, covered with a coat of cinnamon-coloured russet. It is very melting and juicy, with a fine flavour, and it was stated at the Meeting by several members that they had always found it very constant in its characters. *De Bavay* is a nice-looking Pear, and rather large, but the flesh is coarse-grained and only half melting, though sweet and agreeably perfumed. *Albertine* is a fine-looking and handsome fruit, with a very tender, melting, and buttery flesh, and a piquant and perfumed flavour. *Beurré Woronzoff* is coarse-grained and only half melting, with a perfumed flavour.

In Messrs. Paul's collection were *Souvenir de Printemps*, an agreeably flavoured variety, but somewhat gritty. *Lodge*, an American variety, with a tender, melting, and juicy flesh, but with no particular flavour or aroma. *Bonne d'Ezée*, only half melting, with a coarse, gritty flesh, but juicy, and with an agreeable perfume. *Doyenné Boussoch*.—This is a very fine Pear, with an exceedingly melting, very juicy, and vinous flesh, a fine sprightliness, and a delicate aroma. There are many other varieties of both of these gentlemen's collections which we would notice, but our space is so limited we must leave them till next week.

T. M. Jones, Esq., of 6, Constitution Row, Gray's Inn Road, produced a fruit-gathering instrument which was very highly approved of by the Meeting. The apparatus consists of a rod, which may be of any length, say six feet or three feet, and on the end of it is placed a moveable contrivance composed of two rings, which meet and part like a pair of shears; and these rings are covered with a disc of vulcanised India rubber. They are worked by means of a sort of trigger, which is at the hand end of the rod, and when they clasp the fruit the two discs of India rubber yield to the pressure, and the fruit is gathered uninjured. In place of these discs Mr. Jones can also fix a netted bag and a cutting and holding apparatus for gathering Grapes. This is a very desirable invention, and cannot fail to come into general use among amateurs and ladies who do not care to mount a ladder, or risk the safety of their necks by practising gymnastics up a Pear tree.

Alexander Scrutton, Esq., of Wandsworth, sent several specimens of an Apple he called *Seek no Farther*, but which had been sent by Dr. Davies, of Pershore, under the name of *Flanders Pippin*. Some idea may be formed of their size when we state that they measured four inches and a half wide at the base, and thirteen inches and a half in circumference.

The following gentlemen were elected members:—

Mr. Thomas Staples, Albion Hotel, Aldersgate Street.

Mr. Henry Curtis, Ashburton, Devon.

TO CORRESPONDENTS.

Bee-keeping (*J. A.*).—If you are about to commence keeping bees we should advise you not to think of purchasing stocks till you "become a resident in the country," when you will have no difficulty in finding what you want in the neighbourhood, and at less expense and trouble than at a distance. We think you would be likely to see a variety of hives at Messrs. Neighbour's, 149, Regent Street, who, we believe, have also some bee stocks at work in the Regent's Park Zoological Society. Every information, however, that you require may be found in Taylor's "Bee-keeper's Manual," published by Groombridge, Paternoster Row, containing the result of many years' observation of bees, and their management throughout the year, the purchase of stocks, &c., illustrated with a great variety of engravings.

Ground Surrounded by Buildings (*A New Beginner*).—Not knowing whether the soil is heavy or light, wet or dry, or whether the sun ever shines upon it, or what you desire to cultivate—fruits, flowers, or cabbages—how can we answer you?

Arithmetic (*A Young Gardener*).—Buy Walkingham's "Tutor's Assistant," which you may buy for eighteenpence.

Planting Grass Plot (*East Suffolk*).—We have repeatedly said, and must again repeat, that we never give plans for gardens. If plans of beds and the plants proposed to be put in them are stated we point out errors, but nothing more.

Pruning Conifers (*A Subscriber from the First*).—Who is so reckless as to be intending to expose *Pinus insignis*, *P. nobilis*, *Sequoria*, *Wellingtonia*, &c., to be "browsed by stock and deer?" Let them be inclosed and pursue their natural growth. Your specimen is of the *Rhus cotinus*, or Venetian Sumach.

Shrub for Aviary (*Canary*).—You do not mention the size of your aviary. However, we should have a succession, putting in any shrub that happened to be in flower and of healthy growth. In winter an Arbutus would do.

Carnations and Auriculas in Borders (*A. M. V.*).—Carnations and Picotees are generally hardy enough to bear our climate without any protection even in Scotland. Dealers and fanciers only protect them in pits and frames through the winter, and the protection refers more to prevent the ravages of slugs and other vermin than shelter from frost. Then, again, wet, excessive and long continued, especially in low situations, is injurious to these plants. We have them growing in a high situation in a gravelly, or rather, stony ground, and there they are so strong and healthy, with such dark green, broad leaves, that they are the admiration of the dwellers in low localities. Whoever has a garden with a dry gravelly soil may grow many varieties without any protection. If, however, any cultivators, including our fair correspondent, are desirous of keeping their Carnations and Picotees long in perfect bloom, they must shade the flowers from the sun and heavy showers of rain. Without those precautions the bloom would soon lose its clear, bright colours, and would never be fit for exhibition. It is this summer protection that florists most value.

Then, should the cultivator's garden be so unhappily situated that the under stratum is clayey and wet, artificial means should be taken to remedy such an evil. The ground should be as well drained as possible, and the Carnation and Picotee beds should be raised six or more inches above the general level. To keep the beds up to that height they ought to be edged with either wood, slate, or tile edgings. The soil should have a good dressing of broken stones, brick ends, and sand. If a portion of lime rubbish is added it will be of advantage.

The following are, if anything, hardier than other Carnations:—*Countess of Ellesmere*, *Beauty*, *Eclipse*, *Globe de Feu*, *King of Scarlets*, *Knowstrop Pet*.

Picotees.—*Alfred*, *Ariel*, *Duke of Wellington*, *Diadem*, *Mrs. Aitken*, *Princess Royal*, *Rosalind*.

The same remarks on culture apply to the *Auricula*. Many varieties will live in the open air, but the most hardy are the class florists have designated *alpine*. We have no doubt the two our correspondent alludes to are belonging to this class. It is almost impossible to give a description of this class so as to be understood by the uninitiated. However, it may be stated that, in general, the alpines are all more or less shaded, one colour running into, or shading off, to the adjoining. Then, again, the foliage is generally much greener and brighter than the other classes, and is rarely if ever mealy.

If the Carnation and Picotee need a dry, stony soil in the open air, the Auricula requires it still more so. It is a native of the Alps, where it is covered three or four months with snow, and is protected and kept dry thereby; hence in a more temperate clime, where the ground is often bare in winter and heavy rains frequently fall, the Auricula perishes. The only remedy is a raised bed, composed of open, dry compost. "A. M. V." says that the soil where the Auricula grows with her is light, and in Scotland just what will suit this early-blooming, fragrant, spring-flowering plant; and every grower so situated would no doubt succeed equally well in growing them.

Apples (*An Amateur*).—One cannot possibly tell what sort of Apple tree yours is by seeing only the leaf. If you had sent us one or two of the fruit along with the leaves we might possibly have assisted you. Peach trees raised from the seed bear fruit, and that sometimes of a very fine kind. We should think the climate of Australia would improve them.

Perennial Plants (*E. F.*).—Not knowing anything of your locality, soil, or situation, how can we advise you? However, if we had these data, still we should say, Go to the nearest nurseryman, see the plants growing, and choose for yourself.

Apples (*Flora*).—Your Apple is *Keswick Codlin*, a very excellent Apple certainly, but, as you say, it is only fit for cooking, for which purpose it is not to be surpassed in its season. For the culture of *Ginger* see our No. 160, and for directions to preserve it our No. 140.

Geranium Flower changing Colour (*Old Subscriber*).—It is an every season's occurrence. A *Compactum* Geranium confined to a pot gets half roasted at the roots in a dry season. This weakness at the roots and the less power of the sun in the autumn bring out only the weaker of the two colours with which the flower of *Compactum* is painted.

Sea Sand for Hyacinths.—Wintering Geraniums (*A Lady Gardener*).—Any common sand from a pit will do for any kind of bulbs just as well as silver or sea sand, and the latter will do from the beach without washing if it was once dry after taken from the seashore. Your variegated Geranium is a sport which originated at a time when it was not so fashionable as it is now to give names to sports, and it goes yet under the name of the "Old Variegated Scarlet." It is the kind you often read of as the *Shot-silk Variegated*. The *Nosegays* were got from the same race, and are characterised by the same "narrow petals" and loose way of flowering. It is the hardiest of all the bedding Geraniums, but whether it will live out the winter with you no one can tell. It ought to live without a glass case where *Tom Thumb* would require one. The *Flower of the Day* is far more tender than *Tom Thumb*, and is one of the best for bedding. The smooth, thin-leaved kind with pale centres to the younger leaves is *Tom Thumb*. The thick, downy-leaved is some other scarlet.

North Side of Rectory (*A New Incumbent*).—Gravel and Box edgings will suit best, and all the mixed border plants will grow as well there as on the south side of the rectory, and so will the bedding plants and all border bulbs. The only difference will be that some of the kinds may be later in coming into bloom. Our own best "bedding-out" garden faces the north-east.

Gardener's Place (*T. M.*).—We should be glad to assist you, but we have no influence that way. The address you seek is, Mr. Foggo, Shrubland Park, Ipswich.

Begonias.—Delphinium Hendersoni (*A Constant Subscriber, Bristol*).—The seedlings of *Delphinium Hendersoni* ought to live out an ordinary winter under the circumstances; but to have two strings to one's bow, fifty of them should be put into three No. 48 pots close round the sides, and to be put into a cold frame or some shelter. If they were kept as *Tom Thumb*, and potted at the end of February in ten 60-pots, one in the centre and four crossways at the sides, to be planted out at the end of April, the probability is that they would be in full bloom by the middle of May; then, by destroying *every flower-shoot* as soon as it was *one-half* blown and *beginning* to seed, the bed would be one mass of bloom till October; but if only one pod of seed is allowed to ripen the bed will be short of one plant in bloom three parts of the time. Of *Begonias*, *nitida* and *parviflora*, the tallest and dwarfest of the old kinds, are best, and bloom, or may be in bloom, eight months out of the twelve. *Manicata* and *hydrocotylifolia* are the best two spring ones. *Incarnata* blooms all the season. It and *Prestonensis* are best in autumn. *Fischeri* and *albo-coccinea* are very pretty, but more difficult to manage well. *Fuchsioides* is fine, but few can hit on flowering it well. Then come the fancy-leaved kinds, beginning with *Thwaitesii*, and on with the *marmoras* and *pictums* on to *rex*, the last and best of the illustrated Begonias. See back volumes.

Pruning Vines (*R. F., Woodstock*).—Many thanks. Your experience tallies exactly with our experiment barring the flavour, which we mean to be decided in our case by the Judges of the Horticultural Society. After that decision we should much like to use your contribution in the "summing up," but without your consent we can only use your initials.

Root Pruning (*Lancashire Subscriber*).—The root pruning of fruit trees, both with regard to its extent and frequency, must be regulated by the excessive vigour exhibited by the branches. Trees making a growth of only five or six inches do not require to be subjected to this operation. It is only when a tree has so much vigour in its growth as to render it unproductive of fruit, or when it shows appearances of disease from ungenial soil, that root pruning is to be practised. If your trees are bearing well, or to your satisfaction, let them alone.

Hogg's Edging Tiles (*Nemo*).—These tiles fully answer the purpose intended, and there is no doubt whatever but that you can remove them at pleasure.

Wall Fruit Trees (*A Subscriber*).—As you say you do not want any Pears against your walls all your trees will have to consist of stone fruit, as it would hardly be worth while to devote a wall to the growth of Apples. On a soil of such depth as yours is, even although the subsoil be "a stiff, hard clay," we do not think it necessary to go to the expense of stations, because, whenever the roots did get down into it, all you have to do is simply to practise a little root pruning. It is only on shallow soils, where the roots run speedily into an ungenial subsoil, that it is necessary to make stations. Still, however, if you do not regard expense, your trees will be all the better on stations, as the roots are then more manageable. Concrete will do well, indeed, nothing better; but brickbats, lime rubbish, and such-like, well rammed down, will also answer the purpose. On your *south aspect* you will require twelve trees, which should consist of two *Royal George*, one *Grosse Mignonne*, one *Galande*, one *Barrington* Peaches; two *Etruge*, two *Violette Hative*, one *Murry* Nectarines; and one *Large Early* and one *Moorpark* Apricot. Your *west aspect* will take eight trees, which should be one *Greengage*, one *Purplegage*, one *Jefferson*, and one *Coe's Golden Drop* Plums; one *Black Tartarian*, one *Bigarreau*, one *Elton*, and one *Florence* Cherries. Your *north aspect* will require seven trees, all of which should be *Morello Cherries*. As to your success you must judge of that by the way in which your neighbours fare.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

October 7th. South West Middlesex Agricultural Society. At Gunnersbury Farm, Ealing. *Sec.*, J. Gotelee, Hounslow.
October 8th. Bucks Agricultural Society. *Sec.*, Mr. Charles Fuller, Chiltern House, Wendover, Bucks. Entries close Sept. 24.
October 8th. Bridgnorth. *Sec.*, Mr. R. Taylor, Bridgnorth. Entries close 1st of October.
October 28th and 29th. Dorsetshire. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close October 14th.
November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder, Cirencester.
November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, John Morgan. Entries close the 2nd of November.
December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.
December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.
January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.
January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.
January 9th, 11th, 12th, and 13th, 1858. Crystal Palace. ham.
January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Notting-
February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, Preston.
N.B.—*Secretaries will oblige us by sending early copies of their lists.*

OUNDLE POULTRY SHOW.

This was held on the 24th of September in connection with the Meeting of the Northamptonshire Agricultural Society's Annual Exhibition of stock and implements, and is yearly rising in importance and numbers. While local shows cannot be expected to rival those that have poultry only for their object, yet we know none where progress is more marked, and, consequently, where more real good is done. Any one unaccustomed to these gatherings would be astonished to see the interest taken in the poultry by all the visitors, especially the ladies. In this department they can converse learnedly, and here they enter freely into competition. Hence they have at every gathering a personal object, which they lacked so long as the shows were confined to cattle and implements. These meetings have another feature essentially their own. Almost every one is anxious for their success, and speaks of *our county* and *our show*. Everybody knows everybody, and where but one animal or one pen of fowls comes from a parish all who attend from that locality identify themselves to a certain extent with its success or failure. As there is no doubt the poultry forms a main attraction we would advise the Society to give higher prizes, and we have no doubt the extra sum allotted for that purpose would make a good return.

There were four classes for *Dorkings*, and those who know these fowls will be able to form a good idea of their merits when we say that the Rev. F. Thoresby was not successful in every class. No one has bred more good Dorkings or understands them better than that gentleman. The adult birds were, of course, out of feather, but they were as good as can be seen. The three prizes were taken by Mr. Shaw, Rev. F. Thoresby, and Mr. R. Wood. The chickens were worthy to follow them, and the first prize pen—rose-combed birds—would be hard to beat at any show. They belonged to Mrs. Franklin; second and third went to Mr. R. Wood, and fourth to Lady Isham. The third class was for a cock and one pullet. Here Mr. Thoresby showed two splendid chickens, followed by Mr. Wood. The single cock prizes were adjudged Messrs. Marriott and R. Wood. It will be Mr. Wood's fault if this is not the beginning of success. He has birds to win with anywhere.

Cochins and *Brahmas* are all classed together in this prize-list, and Mr. Thoresby took two first prizes for the latter, while Mr. Tatham took three for the former. The *Game fowls* were badly matched as regards the colour of their legs, if we except a very good pen of Brassy-winged chickens. The *Silver-spangled* were the best of all the *Hamburghs*, especially a pen belonging to Lady Isham and another the property of Mr. Marriott. These deservedly took prizes, as did a pen of Silver-pencilled also owned by that gentleman. Exhibitors in these classes were not sufficiently careful in selecting birds with perfect combs. As there was no class for *Spanish* they were, of necessity, shown in that for "any other variety," and they not only monopolised all the prizes, but they formed a goodly show of these beautiful birds. Mr. Thoresby took all the prizes with excellent chickens. There were perfect *Ducks* of every breed. Mr. Harrison was first in *Aylesburys* with excellent birds, and another pen belonging to the same gentleman would have taken the second prize, but by mistake there were two drakes. Mr. Beasley's *Rouens* were very good, and his *Buenos Ayrean* among the best we have seen. The same gentleman took all the prizes for *Turkeys*. It is two years since we were at this Show, and we have never seen greater progress in improving poultry than we did now.

Mr. Baily was the Judge.

DELAY IN SENDING DIRECTION LABELS.

Under the above heading an article appeared in your last number in which Mr. G. Ray says the inconvenience might be easily remedied in the following manner:—"If on receipt of the entrance money the Secretary were to forward to the exhibitor the proper direction labels for his baskets." The proposed remedy is simply impracticable. The labels cannot be sent until *all* the certificates are received by the Secretary and *the catalogue arranged*. Labels without the numbers of the pens would be useless.—W. H.

LEDBURY POULTRY SHOW.

This little affair came off yesterday, Thursday, the 24th instant, in connection with the Ledbury Agricultural Society's Exhibition of Stock, &c., which, by the by, is quite first-class, well worth a long journey to see, the show of Herefords being scarcely second to any in the kingdom, and formed a very pleasing addition thereto, causing the show-yard to be enlivened by the presence of many ladies. The Committee only aim at the improvement of "farm poultry," therefore only offer prizes for Fowls, Ducks, Turkeys, and Geese, without reference to their varieties. Since the introduction of this addition to the Show a marked improvement has taken place in the poultry exhibited. On this occasion many pens of well-bred birds were present, such as would do credit to a show of greater pretensions.

The first and fourth prizes for fowls were awarded to Mr. W. Moore's *Dorkings*, of Hanley Castle; the second to Mr. Deakins, of Ledbury, for *White Cochin-Chinas;* and the third to R. Biddulph, Esq., of Ledbury, for *Black Spanish*. Amongst other pens possessing merit may be mentioned Mr. Moore's adult *Dorkings*, Mr. Deakins's *Dorkings*, Mr. T. Brown's *Spanish*, and Mr. Deakins's *Silver-pencilled Hamburghs*. The adult birds were mostly out of condition from moulting. There were some excellent specimens of *Game* fowl and *Gold* and *Silver-laced Bantams*, but not for competition.

The Ducks were a superior class—all *Aylesburys* except a pen of *Rouen* of considerable merit sent by Mr. Deakins. Lady Emily Foley was awarded the first prize; R. Biddulph, Esq., the second; and Mr. George M'Cann, of Malvern, the third.

Turkeys, first prize, Mr. H. Bibbs, of Hallhouse. Second to R. Biddulph, Esq.

Geese, first prize, Lady Emily Foley, and second to Mr. G. M'Cann, Malvern.

We think the Committee would greatly promote the improvement of poultry in the neighbourhood if they procured the services of some person of poultry experience to act as Judge (and surely some one could be found within easy reach), instead of imposing upon the same set of gentlemen the duties of judging cattle, horses, sheep, pigs, and poultry—the latter an office they do not understand, and consequently by no means relish.—A Subscriber.

NATIONAL COLUMBARIAN CLUB.

The first Show of the above Club took place on Tuesday, the 29th ultimo, at Anderton's Hotel, and was attended by several of the most influential breeders in the kingdom. The chair was most ably filled by Mr. Fry, one of the Vice-

Presidents. The Secretary, Mr. Towse, opened the proceedings by reading his report upon the condition of the Society, which was unanimously considered to be most satisfactory. Five members were elected, and some other important business was transacted. The pens, which were built by Mr. Rogers, of the City Road, appeared to meet with general approval, and the birds were considered to be very good for this season of the year, many being now moulting. It may be expected that the next Show (to be held on October 27th) will be larger, and that the birds will be in better trim.—G.

PIGEONS.

Class 11.—MESSENGER PIGEONS.

Variety 2. THE SHORT-FACED ANTWERP (*Columba tabellaria Belgicæ*).

French.	*German.*
Pigeons Smerles, Courts Becs, de la Province de Liege.	Lutticher Brief-Trager.

The Liege Carriers, or as they are more commonly known in this country as Short-faced Antwerps, were, I believe, originally bred in and about the town of Liege, in Belgium, where the Turbit and Owl Pigeons have been long used in flying Pigeon races or matches, for which the inhabitants of the low countries are as much noted as the English are for horse-racing, or were for cock-fighting. Their origin is undoubtedly from the Turbit or Owl Pigeon, not improbably crossed with some other flying variety. They bear most resemblance to a degenerate Owl Pigeon, some of them having respectable frills and gullets like the Turbit. They are whole-coloured, mostly mealy; but many are blue, and others blue-chequered, or smoky blues. They are excellent homing birds, but not so wild and intractable as the true Antwerp Carrier, and with care and patience can be settled to a new abode, consequently they are much better known in this country.

The cross-bred birds, *Pigeons croi-Semens de Smerles*, crossed with the English Carrier, or more frequently with the Dragoon Pigeon, are a much stouter and somewhat larger variety. They are much more common in England than the other varieties miscalled Antwerps, and are more frequently used for short journeys, as being more certain, the pure Antwerps being, as it is alleged, apt to overfly their homes in short journeys.

M. A. Lejeune, of the Place de Spectacle at Verviers, Belgium, says of the Pigeons Smerles of the province of Liege, that in calm weather they perform the journey from Bordeaux to Verviers in twelve hours, or a journey of one hundred and fifty leagues, as from Tours, Poictiers, or Chatellerault, in eight hours, from which assertion some idea of their powers of flight may be obtained.

Formerly many such Pigeons were kept at Dover, where I had many opportunities of observing them. These birds were used for carrying the stock-brokers information between London and Paris before the opening of the electric telegraph. When the flights were out for exercise their movements were very varied and irregular—not flying in a compact body, but crossing, recrossing, and straggling, then joining in a compact mass, circling round, and again dividing and reuniting. I have heard that Capt. Gouland, who was so very successful in taking smuggling prizes off Dover, was much indebted to his Pigeons, of which he kept a large flight, and had agents on the Continent, who despatched his birds with the intelligence when cargoes of contraband goods might be expected. This having been practised for some time the smugglers procured hawks to kill the Pigeons when let off, thus destroying many of his birds.

Variety 3. THE SKINNUM PIGEON (*Columba tabellaria vulgaris*).

The innate propensity of all Pigeons to return to their home has caused men to make use of their powers of flight to send intelligence to their friends at home. Even the Romans and many ancient nations in the East availed themselves of this property, and Pliny informs us that in his time the Romans built fine houses for their Pigeons, and that very high prices were often paid for them. The Turks also kept up large establishments of Carriers (*Bagatins*), by which means the Sultan could receive intelligence from distant parts of the empire. Most countries have used certain breeds for this purpose. In England, perhaps, the Skinnum has been and still is most extensively used. They are a cross between the common Tumbler and Dragoon Pigeons; in colour mostly blue, sometimes with white flights and even white tails. As flying Pigeons they are useful, but in every other respect they are no better than other common mongrels. In France *les Pigeons Volans* are in general use, they being a cross between their common Tumblers and the Dovehouse Pigeons (*Biset*). In colour these are mostly white with some red intermixed, strawberry, or mealy. Holland and the Netherlands also abound with common Messenger Pigeons of almost every form and colour, numbers of which nondescripts find their way hither, and are palmed off as real Antwerp Carriers. They are generally very wild, and many of them good fliers, but have nothing else to recommend them, being, like the Skinnum and Volans, the very lowest of the Pigeon fancy.—B. P. Brent.

OUR LETTER BOX.

Food for Young Rabbits (*Alpha*). — In answer to yours of the 19th inst., the best food for *young* rabbits is a *stiff* mash of linseed and sharps every day. If required for showing purposes they should be kept in a *very* warm house, and the young should be brought up by good milking does. Rabbits will breed in winter, but not with much success, as the cold would stop the growth of the young.—Percy Boulton.

Game Cock Trimmed.—"Would a Game cock having his spurs sawn off as when they are intended for the pit tend to disqualify him for prize taking?"—A Subscriber.

[Certainly not. It is a common occurrence. Such things only act as disqualifications when it is evident they are done to conceal defects.]

Comb of Spanish Hen.—"We will suppose a case. There are two pens of these fowls at an exhibition. The Judges agree that the hens are in every point equal and precisely similar, but the combs of the female birds in *one* pen are nearly perfectly upright, and like that of the cock's comb. In the other pen the combs of the female birds are quite pendent, gradually sloping from the top of the head, but they are well serrated. Now, the question is simply this—To which of these pens would the Judges award the prize, supposing, as we have done, that they were equally meritorious in every other point of view?"—John Chappell.

[We cannot say what Judges would do in the case, but we have not the slightest hesitation in saying what they ought to do. The advantage would be so manifestly in favour of the drooping combs, they would take the prize easily. An upright, or, as it is called, a prick comb in a Spanish hen, is almost as great a defect as a lop comb in a cock.]

Spanish Cockerel without a Toe-nail.—"I have a Black Spanish cockerel which has had the misfortune to have the middle toe-nail trodden off, and the nail is now blunt. Will it be any detriment to his success as a show bird?"—T. P. Y.

[No. Whatever is plainly accidental, and of as little importance as the loss of a nail to a Spanish cock, will not interfere with the hope of success. It cannot be made a disqualification, as the bird is barely blemished by it, certainly not diminished in value, and it could not be done with a view to augmenting his chances of distinction.]

LONDON MARKETS.—October 5th.

COVENT GARDEN.

No falling off, but abundance of every description of produce; and to our continental arrivals may be added heavy consignments of *Dutch Grapes*, black and white, varying from 8d. to 1s. 2d. per lb.

POULTRY.

We have nothing to note save that Pheasants are in season since we last sent our quotations. Trade remains very dull.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	3s. 6d. to 4s. 0d. each.
Smaller do.	3s. 6d. to 4s. 0d. ,,	Pigeons	8d. to 9d. ,,
Chickens..	2s. 0d. to 2s. 6d. ,,	Rabbits ..	1s. 4d. to 1s. 5d. ,,
Geese	7s. 0d. to 7s. 6d. ,,	Wild ditto ..	10d. to 1s. 0d. ,,
Ducks	2s. 9d. to 3s. 0d. ,,	Pheasants.....	3s. 6d. ,,
Hares.....	3s. 0d. to 3s. 6d. ,,	Partridges..	1s. 3d. to 1s. 6d. ,,

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WEEKLY CALENDAR.

D M	D W	OCTOBER 13—19, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
13	Tu	China Pinks.	30.193—30.108	67—44	S.	—	23 a. 6	10 a. 5	1 0	25	13 44	286
14	W	Sweet Sultan.	29.945—29.694	60—48	S.E.	20	24	8	2 19	26	13 58	287
15	Th	Polyanthus.	29.654—29.389	61—47	S.	21	26	6	3 35	27	14 11	288
16	F	Auricula.	30.262—30.985	59—43	N.W.	06	28	4	4 47	28	14 24	289
17	S	Heartsease. [St. Luke.	30.318—30.308	59—46	S.W.	—	29	1	sets.	●	14 36	290
18	Sun	19 Sunday after Trinity.	30.310—30.270	63—32	S.W.	—	31	IV	4 a. 48	1	14 47	291
19	M	Oriental Persicaria.	30.286—30.237	60—42	E.	—	33	57	5 3	2	14 58	292

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 58.8°, and 40.9°, respectively. The greatest heat, 76°, occurred on the 14th, in 1855; and the lowest cold, 24°, on the 15th, in 1830. During the period 101 days were fine, and on 95 rain fell.

NOTES ON NEW OR RARE PLANTS.

Ataccia cristata (the crested Ataccia). Nat. ord., *Taccaceæ*.—A native of the Malay Islands. Root consisting of numerous gross fibres, proceeding from a short conical caudex. Leaves several, on slightly tapering, smooth, dark brown petioles, oblong, acuminate, smooth; margins entire; veins strongly developed beneath, brownish green. Flowers on long, stout, upright, angled, dark brown scapes. Involucre of four leaves; the two outer spreading, opposite, sessile, acuminate, streaked; the two inner large, erect, side by side, broadly ovate, acute, reticulated, greenish, edged with purple. Peduncles numerous, purplish, about an inch and a half long, each bearing a single flower, and forming a drooping one-branched umbel. They are accompanied by several filiform appendages (sterile pedicels), which form the principal beauty of the flowers by their gracefully drooping character. Tube inversely conical, with a contracted base; limb divided into six segments of an ovato-rotundate form.

This old plant possesses no little beauty and much of singularity. When in flower it arrests the attention of the most casual observer of plants, and claims his admiration. It is not, however, on account of bright or striking colours that the plant is so interesting and attractive (on the contrary, the colours are rather flat), but because of the peculiar structure of the flowers and the graceful appendages alluded to above. It flowers freely in March and April, often later, and lasts a considerable time. The culture is simple, a compost chiefly of very fibrous peat, with a little loam and sand, plentiful drainage, and a moist, strong heat, forming the principal requirements. It is particularly worthy of notice for a choice collection of curious tropical plants.

Primula mollis (the soft Primula). Nat. ord., *Primulaceæ*.—A native of the mountains of Bhotan, and introduced into this country in 1854 by Mr. Nuttall, of Liverpool. Root perennial, stemless. Petioles long, round, very hairy. Leaves cordate, obtuse; margins lobed, crenate, and slightly sinuate, covered thickly with soft hairs; veins reticulated. Scape much longer than the foliage, bearing three or four whorls of flowers. Involucre two linear sub-spathulate leaves. Pedicels three or five in a whorl, longer than the involucre. Calyx inversely conical, tapering at the base, divided into five acute, spreading teeth; green, and covered thickly with long soft hairs. Corolla funnel-shaped; limb broader than the length of the tube; segments five, and ovate in form; bright rose, shading into a blood red ring round the mouth of the tube.

This useful half-hardy herbaceous plant can be, by slight forcing in the earlier months and retarding in the later months, had in bloom from February till the end of May, and often far into June. It should be grown in a well-drained compost of light loam two parts, and the other part good leaf mould and sand. It can be propagated by seeds, cuttings, and division. The best plants are produced from cuttings or division in the shortest time. Much caution must be used in the watering of cuttings and divisions till they are thoroughly rooted in the new soil, as they are very liable to damp.

Galphimia splendens (the shining Galphimia). Nat. ord., *Malpighiaceæ*.—A native of Mexico. Stem many-branched, smooth, and brown. Leaves opposite, on short round petioles, elliptical, smooth, dark green; margins entire. Inflorescence a lax raceme. Calyx divided into five acute, lanceolate, suddenly reflexed, green segments. Corolla five spreading ovate petals, with very long claws, yellow.

A fine free-flowering stove plant. It blooms profusely four or five months in the year, dating the commencement from the beginning of July. Being rather lax in habit it is unsuited for exhibition purposes, but as a decorative stove plant is very useful. Good loam and peat in nearly equal parts, with a mixture of sand, is a compost in which it thrives admirably. The flowers terminate the branches and laterals of the current year's growth. After blooming, therefore, the flowering branches should be cut hard in to an eye or two. Strikes freely from cuttings in the usual mode of rooting stove-plant cuttings, and the first year after rooting should be devoted to the forming of the basis of the plant by judicious shifting and careful stopping.—S. G. W., *Kew*.

VEGETABLE FORCING.

Mushrooms.—The culture of Mushrooms is so very simple that there exists no particular obstacle to the enjoyment of them through the winter by the mere cottager; but this subject has been too much mystified, or rendered complicated, to prove of such popular character. A few barrows of horse droppings, a shelter from frost and from rains, and a couple of cakes of spawn are all that are necessary to form a bed sufficient to supply any moderate family from November to March with something like three dishes per week, which is as much as would in general be requisite. The durability of the Mushroom bed depends on the depth and quality of the material; there is no escaping this fact. The deeper the bed, and the fresher the dung can be got together, the finer and longer lasting the Mushrooms will be. But then deep beds are apt to become hot, and much heat is averse to the spreading of the spawn, and, indeed, at all times injurious to Mushrooms. How, then, shall this high fermentation be avoided? for that is one of the chief problems to solve. I find no plan equal to that of building the bed by instalments. A layer of four inches I consider the maximum amount that should be permitted at once. In this practice it is simply necessary to commence earlier than by the old mode. Thus, suppose I want a bed to produce from the end of October to the end of February, I will show how I proceed, and the following will be a mere recital of what occurred with me last winter, when I had a bed which produced in constant succession for at least four

months. I placed the first lot of dung fresh from the stable door in an open shed at the end of June; this lay for a week or ten days spread abroad, and was then housed and formed the base of the bed, being trod or beaten down as hard as possible three inches thick. Soon after the dung was removed from the shed another lot was introduced, and lay as before spread about, four inches in thickness, and, for fear of exciting the portion of the bed already formed, it lay for about three weeks, when it, too, was beat down on the other. The bed now began to heat a little, but not severely; for although the first layer had not body enough to heat in a perceptible way, yet the addition of the second layer caused, of course, a slight fermentation. This brought me up to about the end of July. In the beginning of September the portion of the bed built was, of course, quite cold, and a third lot of fresh dung was housed; this lay for a fortnight or so, and then another layer of about three inches to finish with, all rammed very firm.

The moment the bed was finished the holes were made for the spawn, and in order to prevent undue heating. The bed thus treated became about the warmth of milk from the cow, and in about a week was spawned: the results I have before described. Now, I do not contend that this is the only good practice; but I merely wish to show what it is that promotes durability in the bed, and in such case how to avoid over-heating. As to temporary beds where a regular succession is made, it may be observed that six inches of fresh dung, which has been spread and aired in a shed for a fortnight or so, well trodden or beat, is almost sure to produce a crop, providing the spawn is fresh and good. The dung cannot be too fresh, providing it is allowed to be spread in an open shed or outhouse for a week or two, and it should be housed, if possible, before a drop of rain falls on it. As to temperature, the bed at any one stage should never rise beyond 80°; 70° is a much more wholesome heat.

Asparagus.—This is more simple than that of the Mushroom. I speak here of forcing on hotbeds made purposely roots taken up from the beds. The most moderate bottom heat possible suffices, except it be in very early forcing, say in November, when it requires a strong heat to rouse them, having just commenced their winter's rest. If I were to offer temperatures adapted to each month I should say, as to bottom heat, 70° to 80° in November and December; 65° to 75° in January; 60° to 70° in February: this will be found correct, as I have found from long experience. By this the uninformed may perceive that it requires much more heat to rouse a plant of any kind just sunk to rest than one which has completed a portion of its winter's repose. Those who have not practised would be astonished at the difference. But there are a few peculiar features in the successful forcing of Asparagus to which I would draw attention. In the first place as to air heat—its relation to the bottom heat. If Asparagus grows too fast it becomes tall, thin, and flavourless. As to white Asparagus, which some people admire, that is very easily produced: it is merely keeping it covered up to exclude light. If it grows too slowly by a very low temperature it becomes humpbacked, and is sure to be tough. So we see, after all, the rate it grows at is a matter of importance. To give an idea, then, of sound practice, I say endeavour to keep the thermometer between 55° and 65°, whatever the bottom heat may be; or, in other words, let it be generally from 5° to 10° below the bottom heat. Now, in the spring it is not well to have a durable bottom heat. Such with the advancing spring will tend to draw the "grass."

As soon as the "grass" is above ground in February or March it is well if the dung bed loses nearly all its heat, as the excitement of the rising spring is in general sufficient to cause it to lengthen as rapidly as desirable. Very different, however, is the case in December and January. We are then compelled to secure a considerable amount of bottom heat in order to assist in keeping King Frost out. Protection of some kind to the lights of ordinary frames is particularly necessary, especially during the winter months; for, seeing the bottom heat is kept as moderate as possible, we are compelled to count on a good roof covering in case of contingencies; and we all know that the weather is a treacherous attendant. Plenty of air, if of a mild and fair character, is of the utmost importance as to the flavour of Asparagus; indeed, high flavour can scarcely be obtained without it; but the air must not be of a cutting character, or the "grass" will be stunted in its growth. Liberal waterings are essential to the production of fine "grass" on dung beds. The roots suffer much, of course, by the severance of their fibres in the act of taking up, and need some compensation if possible. This compensation is to be found in the use of a mild and steady bottom heat, in rich old manurial matters strewed amongst them, and in the use, in its earlier stages, of liquid manure, in which a little common salt may be dissolved.

Sea-kale.—It may here be observed—and the observation applies equally to Asparagus—that no mode of forcing can produce satisfactory results unless the roots, or rather, crowns be good; therefore high summer culture out of doors is indispensable. For want of a due recognition of this fundamental point numerous have been the disappointments. A weakly crown cannot by any possibility produce a good head. The old practice of forcing Kale in the open ground by covering it with blanching pots has been much set aside as very inconvenient, uncertain, and requiring too much manure and labour. Nevertheless those who possess very small gardens are driven to this practice; for, having little space to spare, they are quite content to let the Kale remain from year to year; but we all know it becomes gradually weaker, and it is almost needless for me to add that the produce when forced is in many cases pitiable.

As those who force by the old blanching-pot mode generally know how to conduct that practice I will offer a few remarks on the other system. Sea-kale abhors extreme temperatures, whether of soil or air heat: the soil should never be above 75°, nor the air above 60°, under a forcing process. Somewhat like the Asparagus, a good deal depends on the relation the air heat bears to the bottom heat. The former should, in the main, be 6° or 8° below the latter. Sea-kale may be forced in a very small compass. I manage to have a constant supply from November to April by means of a kind of bin about ten feet long by three feet in width. About once in three weeks a few roots, according to demand, are put in this bin, which has a lid to darken it; and a bottom heat of 60° to 70° is sustained by means of warm manure. This is in the Mushroom house, and accords well with the general conditions requisite. One thing I have found necessary under these circumstances—that great moderation must be used in the air heat as soon as the Kale is about three inches in length. Like Asparagus, a marine plant, it enjoys a little weak salt and water occasionally—a handful of salt to two or three gallons of water, adding a little liquid manure.

These remarks are of a desultory character; but my aim was to point to a few of the chief features connected with forcing, and in so doing to show forth "breakers ahead." Robert Errington.

BLUE BEDDER.

The best blue bedding plant that has yet been tried is the Chinese Larkspur, *Delphinium Chinense*. On its first introduction, more than thirty years since, it was considered a hardy perennial plant, but soon after that

it was supposed to be little better than an annual, or biennial at most, as people usually lost it in winter. For the next fifteen years it was grown only as an annual in most gardens, and then it was discovered that if its roots were taken up before the winter, and preserved in sand or garden soil so as not to shrivel too much, they might be planted out in March or April, and would flower sooner and more strongly than seedlings treated as half-hardy annuals.

From that time and by those means it has been gaining ground slowly as a bedding plant. It varies very much when raised from seeds; every shade of blue, and thence to grey and to pure white, appears among the seedlings, and on that account it has been one of those plants in which the gardener or amateur "took a pride" in the superiority of his breed of it. Last August twelve-months an eminent cross-breeder of the amateur class sent me a packet of his own breed of it, which turned out the best sample of seedlings that ever passed under my hands.

A few weeks since I related an experiment I made with some of the seeds by sowing them in September, and treating the seedlings as half-hardy plants, which were in bloom early last May, and might have been so a month earlier if a little extra heat had been given them from the end of February.

This experiment has proved that the Chinese Larkspur may be had in beds for the London season—a valuable acquisition to London gardeners; and now I am in a position to give the same encouragement to the London amateur, and to all whom it may concern. Amateurs have not the means, and but few of them the necessary practical knowledge, to carry a batch of these seedlings over the winter; they are, therefore, so far excluded from the benefit on that score. I may remark, however, that no seedlings that I ever tried caused less trouble or anxiety during the whole of last winter, and, as a proof of that, a large quantity of newly-gathered seeds from the best blue bed in the Experimental Garden was sown in 48-sized pots at the end of last month to go through the same process as last year, and to make a grand turn out next May. We also intend to sow one pot of it during the middle of this month, and another at the end of it, to ascertain how late it may be sown with safety. It might also be sown out of doors in the open border any time in August, and the seedlings be fit to be taken up, and be potted—twelve or fifteen in 48 sized pots—in rich, light compost of leaf mould, sandy loam, and coarse sand. That would be the best and easiest way, and any bed or patch of it might be allowed to ripen a few spikes of seeds on purpose for this sowing year by year.

But the next turn of the leaf exhibits a way for amateurs by which there will be no occasion for seedlings after awhile. My plants were particularly fine in colour last May, and I allowed them to remain for seed; but, strange to say, they did not produce a single seed, although the seed-pods were full-sized, and to all appearance full of seeds. When they burst open not one of them showed a trace of a germ or seed. They were indoors all the time they were in flower, and in smaller pots than they required, and I should have "inoculated" them with their own pollen, but did not. At the end of May, and before they were out of bloom, but with many seed-pods full grown, I planted them out of the pots into a bed where seedling Geraniums were just turned out, in order that they might not be overlooked in watering.

On discovering that I had no seeds, and the plants not offering to grow any more, I commenced another experiment with them, cut them down to the surface of the ground, kept them well watered, and hoped for a fresh start of growth from the roots, as we find useful at times with other kinds of Larkspurs. But no, they would not, nor did not, offer to move the whole of this hot season, although the bed was regularly watered for the seedling Geraniums.

I was then "curious" about three things. Had the roots perished? Impossible. Look and see—they had not. Would they push next October like the Hyacinth and other bulbs, which rest during the summer? or would they rest on till next April, and then come up in the usual way? They took exactly the same course as summer-resting bulbs. At the end of September they began to push; I then took them up and potted them, and plunged the pots in the open air, and there they are at this moment, and, my word for it, they will be as easily got through the winter as a common *Fuchsia gracilis*. Therefore, let those who can do so have as many seedlings to bloom next May as they can, and it is not yet too late to do so for that purpose. Let the amateur choose his dozen or his twelve dozen of them when they are in bloom. Let him, or her, rest them at home, and by this time next year they will be on the move, and all the care they need is the shelter of a cold pit, with Calceolaria cuttings or the like. In April following they will be fit to plant into a bed or border, and if they are not allowed to form seed-pods I should not wonder if they would last out the whole season in full bloom. At all events they will be in good feather for the first three months, with an average height of twenty inches. They are in full bloom with us now at the Experimental Garden, and the bed was much admired since the end of June. The seeds were sown in heat about the second week in April, and as soon as they were up they were removed to a cold pit, and they were planted out with the bedding plants in May, and as we had abundance of them we planted them three inches apart each way. Although the breed could not be excelled for purity a few of the plants "ran" into inferior tints, and two or three were pure white. The latter we shall save, but the others were destroyed on their first appearance in bloom—a bad practice, however. If the bed had been thinly planted, say at six inches one way and eight or nine inches the other way, in that case, instead of making gaps in the bed by pulling up the bad ones, a better plan would be to cut them down only to the bottom of the flower-stalks, in order that the bottom, or rather, the surface, of the bed should be equally covered; the top part of the plants spread wide enough to fill the blank spaces in a day or two.

D. Beaton.

SHRUBLAND PARK.

Accompanying a friend who had obtained the privilege of entrance, I spent a part of the 10th of September at this wonderful place, after having looked at the Exhibition and walked over most of the grounds at the Crystal Palace on the previous afternoon. I mention this visiting on a Thursday to prevent disappointment, because Friday is the day open to visitors, and then *only* to those who have applied for and received cards of admission from Sir William Middleton. As the worthy proprietors thus generously give up one day of the week for the benefit of the gardening-loving public, it is to be hoped that few will imitate our example in seeking entrance on any other day. The public should know that such admittance involves a sacrifice of time and of labour, besides other considerations, and that these are vastly increased when visitors without any notice solicit admittance just at the times and seasons that suit themselves best. According to our wont I may mention that Shrubland is about seven miles from Ipswich, two from Claydon, and three from Needham; but few trains stop at Claydon, though that was the station we walked from. I may also mention

that no means of conveyance can be got at Claydon, but abundance of all kinds at Ipswich.

So much has already been written of Shrubland Park in this work by a worthy coadjutor, the very best fitted from circumstances to do the subject justice, and so much has also appeared in contemporary journals, that I do not expect to be able to present anything new, or from a few hours' visit any great fulness or even perfect accuracy in details; but as different individuals look at objects from different points of view, and as many friends have already requested to know my impressions of Shrubland, I wish to place a few floating ideas and reminiscences of what I actually saw on record, not confining myself to the famed flower gardens, and even with respect to them dwelling little or nothing on their antecedents or the agencies used, partly because on these matters my knowledge must be imperfect, and partly because convinced that, however superior the architectural and artistic skill employed, however great the abilities, and, what is more to the purpose, the never-satisfied enthusiasm of the different gardeners, yet the extended knowledge and refined taste of Sir William and his lady have been the presiding genii that evoked and constituted such a unique example of the Italian style in gardening.

On the opposite side of the road to the lodge by which you enter, going from Ipswich to Claydon, is a beautiful Willow tree, the branches hanging so gracefully in repeated wreaths and folds as to be well worthy of notice, and especially of those who consider that such a Willow can only be found in proximity to water. The approach winds gracefully by a gradual ascent to the mansion, thus giving to it the impression of dignity. The timber along this route was comparatively young; but I was pleased to notice some groups of Scotch Firs, fine-grown Thorns, with masses here and there of Furze and Bracken, eliciting the ideas of wildness and extent, and conjuring up the first promptings of the inquiry, repeated to myself afterwards on seeing the fine Thorns and masses of Fern in proximity to the left side of the noble mansion, "Can the famed interest of Shrublands be at all owing to its contrasts?" In passing a second lodge we obtained our first view of the mansion, and on our right descried signs that the gardens must be embosomed there, and ere long found Mr. Foggo's house ensconced inside the kitchen garden, with villages of pits and houses in its immediate vicinity—a matter of great importance in the superintendence of such a large establishment. Leaving these I would take you along with our kind and courteous friend that I had never seen before, and first look at the floral and artistic marvels of the place.

The mansion, turreted and castellated in its newer portions, is built with white bricks and fine white Caen stone, and is situated most happily at the extremity of a fine space of table land, where that slopes almost precipitously into a narrow valley, the ground rising gradually on the opposite bank. The colour of the house and its splendid position have been the key notes to the system of gardening adopted. I am thus, perhaps, prematurely giving the reader an advantage; for if he stood with me as yet at the entrance front, which stands somewhat to the east, admiring the elegant entrance hall extending north and south of the doorway, and furnished with large Ferns, fine Begonias, masses of Achimenes, and other graceful and flowering plants in elegant vases, or looked up the main staircase, and found it transformed into an avenue of gorgeous plants, he could have seen nothing to lead him to imagine that the ground on the other or west side of the mansion was materially different from that he had just passed between the house and kitchen garden. Although I have purposely refrained from looking at previous accounts, I cannot forget that our friend Mr. Beaton told us that lady and gentleman visitors could not form the least idea where the flower gardens were until they saw them from the drawing-room windows. Not only is this the case, but another desirability of almost equal importance, and too much neglected, has been thoroughly attended to; namely, that during the whole length of the approach no glimpse of the best views in the landscape can be obtained until the visitor gets to the said windows, or, like us, gets admitted to the conservatory front on the south side of the mansion, or the balcony garden on the west side. From the conservatory terrace a fine view is obtained of an undulating lawn, embellished with very fine specimens of Thorns, &c.; and from thence, and especially from the balcony garden, the eye sweeps over a hidden valley to rest upon a great extent of diversified undulated scenery, forming something of a miniature of the richer and more extended picture seen from the terrace at Sydenham. To the ladies at the window I presume there would be no hidden wonders in the valley on its banks, and this in some respects might be an advantage; whilst we on *terra firma* would also be able to think of our advantages in being enabled to take so many different matters of interest somewhat more leisurely and separately in detail.

With these premises we now enter by the blue and golden gate (all the iron gates are painted blue and golden yellow), and find ourselves on the stone terrace that fronts the conservatory. On the right as we enter between the gate and the end of the conservatory is a Box hedge, fronted with a tall row of the giant scarlet Geranium, and that again fronted by a row of *Punch*. On the opposite side are large boxes of wood I think, and blue Chinese earthenware slabs let into the sides, and filled also with scarlet Geraniums. Along this terrace are numbers of vases and vessels of different shapes, but chiefly of blue china, and filled in a similar manner, the blue and the scarlet contrasting well with the light stone colour of the mansion and balustrades.

I am not aware whether or not there is a direct communication between the mansion and conservatory, though from the south-west corner of the building, where the Albert Tower is situated, protruding considerably further southward than the rest of the mansion, the end of the conservatory not only abuts against it, but a large window from one of the principal apartments commands a view of the conservatory and what is in it from end to end, the window-sill, and consequently the floor of the apartment, being, I should say, from six feet or more above the floor of the conservatory. Unless the flowering plants in pots are very large indeed they can be looked down upon, and their beauty fully seen from this end window. A great variety of setting and furnishing may therefore be indulged in. When the plants are to be seen from a glass doorway, the base of which is only a foot or so higher than the floor of the greenhouse, few methods of displaying will equal that adopted by Mr. Thompson, of Dyrham Park, as recorded this summer. The example of this elevated window led me to think that in the case of lofty greenhouse conservatories attached to, and communicating with, the ground floor of the mansion, the presence of such a window in the apartment above, if capable of being made into a sitting room, would yield additional attractions from presenting the plants in a different aspect.

The size of the conservatory I cannot now guess at, but it is lofty and large. The back, of course, being the end of the mansion, I presume is opaque, and so are the two ends. The roof is a sort of double-hipped, and nearly all glass, and the front is glass; and now we shall meet the old sashes elsewhere. The columns are covered with Passion-flowers, Tacsonias, Ipomæas, Bignonias, &c. The *Ipomæa Learii* was clustering and dangling from the roof, and so were various kinds of Tacsonias and Passifloras, and also, so far as I recollect, *Ste-*

phanotis floribunda. At the back wall, in the shadiest part of the house, a border of Ferns had been planted. The mode of furnishing seemed to be based on combining flowering plants with those with rich and interesting foliage. Here among the first were huge well-bloomed Balsams, Fuchsias, *Hibiscus rosa Sinensis* of various varieties, and also other species; neat Orange plants in fruit and flower, good plants of *Vinca rosea* and *rosea alba*, some Ixoras, a neat plant of *Pleroma elegans*, ditto of *Lisianthus Russellianus*, a good specimen of *Sobralia macrantha*, good plants of Orchids depending in baskets, masses of Achimenes, and many Begonias, some of them, as *Harrisii*, being distinguished for their large, peculiar foliage, and their free, continuous flowering. The mentioning the names of such kinds as *albo coccinea*, *cinnabarina*, *fuchsioides*, *parvifolia*, *palmata*, &c., would occupy a page, the place being rich in Begonias.

As combining bloom and fine foliage I might notice *Hedychium Gardnerianum* and *coronarium*, and Cannas of different sorts, and, for fine foliage alone, large plants of different kinds of greenhouse and stove Ferns; Caladiums of kinds; Marantas, with their fine colours; and *Cissus discolor*, trained into various fancy shapes and looking well, though hardly shaded and hot enough there to give them full justice. Thus furnished a house presents a far richer appearance than when supplied with greenhouse plants alone. Mr. Foggo stated that the keeping the house somewhat close shortened the period of blooming of the hardier plants, and injured specimens of hard-wooded plants very much, all which we believe; and therefore the necessity of acting, as he wisely does, in confining decoration here chiefly to soft-wooded plants. The finer New Holland plants and Heaths can be best attended to in their appropriate home. I presume that during most of the year this conservatory is kept at a temperature midway between a greenhouse and plant stove.

Crossing this conservatory terrace and descending a flight of steps we find a narrow chain border on each side of it, supported in front by a plinth of stonework, the back being the balustrade of the terrace. The links of the chain are neither circles nor ovals, but a kind of compromise between the two. The circles do not touch each other, but a space of eighteen inches or so is left between, and the bounding line of Box so curves round the space left as to leave from a foot to eighteen inches at this narrowest part. The space outside the Box on both sides is covered with silver sand. The centre of all these chain beds is filled with scarlet Geraniums, and part ribboned round entirely with blue Lobelia, and part alternately with the Lobelia and a yellow Heartsease, each crossing the other at the narrow points of junction. I was told that the *Œnothera viparii* or *parviflora*, and I know not what *alias* besides, was used last season instead of the Heartsease, and from its twiggy habit I should think it would be the best match for the Lobelia in varying the surrounding ribbons. In the centre of the open spaces on the sand where the links join were compact green bushes of the Gooseberry-leaved Geranium. With such groundworks and surroundings no other mode could have been more telling and suitable; but, because authorities have rightly praised these blue ribbonings, we find numbers of good worthy people edging and ribboning everything with true blue, and making the first row of their to be grand ribbon border with this blue Lobelia, though the immediate surroundings in all the cases be green grass lawns, and they will not be cured of their hobby, though in dewy mornings and after every good pelt of rain their ribbons of Lobelias look as weedy, and leafy, and miserable as even jealousy and envy could wish. With a surrounding of warm sandstone or gravel the effect would be very different.

Passing onwards to the south-west corner of the mansion there is a beautiful oblong bed with its corners rounded off—the manner of planting which is worthy of being recorded. Beginning at the outside there is first the broad stone plinth, then a foot of white sand, then an edging of Box, inside of which is a ring of light-coloured Verbenas, then *Cineraria maritima*, then *Crimson Unique* Geranium, then pink variegated Geranium (*Lady Grenville*), followed by *Mountain of Light*, and centred with *Punch*. If anything at all could be desired it would be elevating *Mountain of Light* a few inches, but as it is the bed is very telling. Just as an example of the number of plants, not only for planting the beds at first, but for making changes and supplying deficiencies, I may mention that the centre of the bed in the first part of the season was the scarlet Crassula, and the edging, instead of Verbenas, was a light *Phlox Drummondi*.

Passing other combinations we would now glance at the balcony garden, a large oblong parallelogram on the west front of the mansion, and some fifteen feet or so below the stone terrace that separates the mansion from it. For architectural effect, artistic design, simplicity in outline, massiveness of colouring, suitability in arrangement, and harmony and elegance in detail combined, it would be no easy matter to equal this unique garden in its various merits.

Going along a broad walk near the terrace you stand at its centre; the wall of the terrace is behind you; the rest of the garden is surrounded by an open stone balustrading; a broad walk is before you going straight up to the balustrading, which here in the centre is relieved of its sameness by a beautiful arched temple, a broad walk also bounding the front of the garden inside of the balustrading. Along the sides of this central walk opposite the temple are low, squarish stone vases at equal distances and opposite each other, the sides so curved as to lessen in diameter as they rise, in contradistinction to our generally adopted notions of pots and boxes; and in each of these is a standard Portugal Laurel in imitation of Orange trees. Each of the ends of this inclosed balcony garden is devoted to an artistic scroll garden on grass, the scrolls being filled with white sand, and many of the larger spaces furnished with tripods and vases, whilst room is found here and there on the grass for specimens of rare trees and shrubs. The space between the scroll garden and the centre walk on each side is occupied with four large squarish beds on a groundwork of gravel, with the corners of the beds rounded off to make them more artistic. To simplify the matter Mr. Foggo has what he calls two scarlet beds and one purple, and one blue on each side. They are so placed that, however you read the beds in parallel lines, you have blue and scarlet, and scarlet and purple opposite each other.

In order to see the propriety of this arrangement you must know that between the terrace and the walk on which we have been standing all this time are long beds of bright pink Nosegay Geraniums, and that on each side of these main gardens are long beds of yellow Calceolarias. All of these eight principal beds, four on each side, are made in the same style. First there is a massive stone edging eight inches wide, and standing six inches above the gravel; next there is a border of grass eighteen inches or so in width; and then a space of a foot in width of white silver sand, bounded by a Box edging, inside of which all the planting takes place, and has thus been managed:—Four scarlet beds—centre mass of *Shrubland Scarlet* Geranium, next band of *Punch*, next broad band of *Manglesii* with the flowers picked off, and next the Box edging a band of *Tom Thumb*. Two purple beds—centre mass of *Prince's Feather*, band round it of *Love-lies-bleeding*; next *Crimson Unique* Geranium, but next year to be purple Petunia; then band of *Golden Chain*, followed next the

Box with another of *Baron Hugel* Geranium, the flowers of both the last picked off. Two blue beds—centre mass of *Delphinium formosum* and *D. Sinense* mixed, banded round with Ageratum; next band of *Lobelia speciosa;* and finishing, as in the purple beds, with *Golden Chain* and *Baron Hugel*, the flowers also of these last two removed.

I shall be disappointed if, after such a long description, the youngest gardener who sits down to read on an evening with an oblong table before him does not see the groundwork of at least the principal parts. Let him set off a space across the middle of the table for the central walk, lay off a space at each end for the grass gardens, place his four beds in the space left on each side, seeing that the gravel is in proportion to the beds, form and arrange them as here described, and do what he can to change and improve the mode of planting as good matters of exercise and study. I may just mention two things. First, along the sides of the walks, opposite the openings between the beds, were large boxes supplied with very fine *Humea elegans*, and with young plants put round the sides of the box to conceal the bare stem of the old plant, and the result was very effective. Secondly, the pleasure at finding Prince's Feather and Love-lies-bleeding—*thorough cottagers' flowers*—holding such a prominent place in such a princely garden, and losing nothing, but rather gaining, by contrast and comparison with their more aristocratic neighbours. R. Fish.

(*To be continued.*)

FLORIST FLOWERS IN OCTOBER AND NOVEMBER.

The most important work during these two months is the stowing away for the winter the floral stores. Every inch of glass and every inch of space will be in requisition, so that it would seem impossible to put by those odd things that I should like to protect and preserve through the winter.

In the early part of the space of time I am alluding to the *Auriculas* must have due care. They must be placed under shelter from heavy rains and mizzling dews. But the novice must not just lift them up and set them down in his pit or frame. No, he must handle them as a careful mother does her loved little ones. He must first of all wash the pots clean; then dress the plants by carefully clearing off all decaying leaves. Also give the plants a supper in the shape of a coating of fresh soil on the surface, stirring up previously the battered old soil, so that the fresh food may find its way down to the plant feeders, the ends of the roots. See also that the holes at the bottom of the pots are not stopped up; if they are, clear out the dirt with a short stick. Look out for worms and slugs, and destroy them. Then your plants will look like clean babies, and may be put to bed for the winter with a fair prospect of awaking in the spring in robust health.

Polyanthuses require the same treatment, only add to the above cares that of looking out for the red spider. That insidious enemy is cunning enough to secrete himself on the under side of the leaves in the hollows and sinuosities. To him these secret hiding places are roomy enough to hold large families. Dislodge them, then, by carefully brushing the under sides and penetrating into all the holes and corners. If you have by you a mixture of sulphur and water, and apply a coating of it, you will find it an excellent protection against the sucking snouts of the red-coated pigs. Did you ever see a red spider under a powerful microscope? If you have not take the first opportunity and look at him. He will astonish you. You will say, "It is no wonder that the leaves of my plants look yellow. If I was sucked by an animal in proportionate size in such a way I should look yellow too." As it generally happens that growers of Auriculas grow Polyanthuses also, I would advise them to be arranged thus:—There should be a rising stage following in form the slope of the glass. By placing them on a stage many evils are avoided, such as damp, slugs, worms, &c. The Auriculas, as being of the most alpine habit, should be placed on the higher ranges of shelves, and the Polyanthuses on the lower, the latter plants loving, or at least being partial to, a greater degree of shade and moisture. Now, all these attentions should be given to these two classes of plants early in October. Mind that far more Auriculas are destroyed by heavy autumn rains than by any other cause. I need scarcely say that they must be fully exposed in dry weather, and have plenty of air in wet weather. Give no more water than is necessary just to keep the plants from flagging.

Carnations and *Picotees.*—The layers should now be well rooted, or at least so callused that they will root when taken off the old stools. Pot the layers in 48-sized pots, which are about five inches diameter. It is the fashion to put a pair in each pot, which fashion is convenient enough both for sale, carriage, and repotting in spring. The soil at this season should not be over rich. Three-fourths loam to one-fourth leaf mould and well-decomposed manure, with a liberal addition of sharp river sand, is a good compost for store pots. Drain effectually and pot firmly; then give a good watering, and place the pots in a pit or frame, giving plenty of air in wet weather, and full exposure when dry and favourable. The great enemy to these plants during autumn and winter is the mildew. This is brought on, or at least encouraged, by long-continued damp weather. The remedy is abundance of air and sprinklings of flowers of sulphur on the affected leaves. I have found very dry ashes spread over the surface on which the pots stand a good preventive. The ashes seem to absorb the superabundant moisture even when the frames are shut up.

The Carnation and its ally are far from being tender; in fact, they are perfectly hardy; but then the best varieties are so choice that florists universally practise the careful system of giving them shelter from snow storms and heavy, long-continued rains. Severe frost will not hurt them, providing the soil and the leaves are dry.

Dahlias.—By the time this paper is in the hands of our readers most likely frost will have occurred, especially in low situations. In all such cases let the tops be cut off immediately, and then with a spade lift the roots, without, however, taking them clean out of the ground. This lifting breaks off the extreme ends of the roots, and thus stops the sap from rising. By leaving them in the ground a little longer, say a fortnight, the tubers become firmer, and will not be so liable to shrivel up and perish as they would if taken up at once.

Saving Seed.—If this is desirable now is the time to look after it. I need scarcely mention that the seed should be saved from the very best varieties. It is a remarkable fact that a double Dahlia does produce seed. Of course it cannot be a fully double flower, where all the stamens and styles are converted into floral leaves, for in that case it is a certain impossibility that seed should be produced. It should be borne in mind that the Dahlia is a composite flower; that is, each floret is a perfect flower of itself, standing upon a common receptacle or plate with its fellow florets, forming altogether what we call one bloom. Now, if one or more of these florets has its stamens and style perfect, seed will, as a matter of course, be produced.

Gather the seed-pods with a long stem to each, tie them up in small bundles, and hang them up in a dry shed or room to more fully ripen. Then some rainy or

other day clean the seed out, and put it away in a dry room till the spring.

The tubers when ready, and a dry day or two occurring, should be taken up, and all the soil shook off. This must be done carefully, or some of the tubers will break off and be useless. Let them dry well in the open air, and then store them away in dry earth or sand in some shed or room where the frost cannot reach them.

Stores in pots should also have their tops cut off, and be stowed away for the winter. I have found that, if the pots are laid on their sides and placed under the stage of the greenhouse, they have kept remarkably well. I am an advocate for keeping a good stock of Dahlias in small pots. I find them keep best in that way.

Pelargoniums, or, as they are commonly called, *Geraniums*.—Florists' varieties of both the showy large kinds and the fancy varieties should now be all under glass. The large plants that were cut down in July ought now to be well furnished with leaves and short stout shoots. Cuttings potted off in June or the early part of July should also now be nice stocky plants. Place them all as near the glass as possible to keep them dwarf and bushy, and also keep the house as cool as possible to prevent any premature weak growths. This is a rock on which many growers split; namely, keeping their greenhouse too warm in the autumn. The effect of this stimulating, injudicious treatment is drawn, weak shoots and yellow leaves, which often mildew and fall off in winter. To prevent this fatal effect give air abundantly, and always water in the morning, choosing even for that a morning when there is a probability of sunshine to dry up the superfluous moisture. The floor of the house also should be kept quite dry. Let any grower go into Mr. Turner's Geranium houses at Slough, and he will find every part as dry and as clean as a parlour floor. Should unavoidably any wet fall on the floor or stage let it be carefully wiped up at once. As the houses must be washed out occasionally, whenever that is done see that they are dried as quickly as possible, and let it be done in the early part of the day, and if the weather is wet and damp put on a little fire to assist the drying process.

T. Appleby.

(*To be continued.*)

THE HYACINTH.

As it is now the season for potting and planting these sweet-scented and lovely spring flowers a few hints on the best mode of cultivating them will be useful to many of the readers of The Cottage Gardener. They are grown in three ways, namely, in glasses filled with water, in pots, and in beds in the open ground.

In Glasses.—Whenever you have the opportunity choose your own bulbs, or deal with a trustworthy man. Select such as are of a middling size, of a close, compact, round form, without offsets at the bottom; also notice that the apex or top of the bulb is full and firm. There are now several kinds of glasses; some made of clear glass, and in the old-fashioned shape; others of the same shape, but with the glass of various colours; and there are others of more recent fashion with the lower part bell-shaped. Where fancy rules it is difficult to decide on which to fix. I am, however, inclined to the first named; namely, those upright ones made of clear glass. It may be said with truth of this form and make that the state of the roots and the water is better seen, and of course, if wrong, sooner set right. Be the choice as it may, now is the time to procure the roots and the glasses. Fill the glasses with clear rain or soft water, and place the bulbs in the cup at the top of the glass, taking care that they are not in actual contact with the water. I would say, let the thickness of a shilling be between the bottom of each bulb and the top of the water. The roots will quickly push and find their way down into the water. Then place them in a dark, cool room, where the temperature is pretty nearly of an even character. Let them remain here until the roots have grown downwards nearly to the bottom of each glass.

If they are then examined at the roots they will generally be found covered with a greenish slime, and the water will be dirty. In that case draw the roots carefully out of each glass, throw away the water, wash the glasses quite clean inside and out, refill them with fresh, clear, soft water, and then wash off carefully the green slimy matter, leaving the roots as white as snow. This washing must be carefully done, so as not to break or bruise any of the roots. When once done effectually they will not require washing again. The water should be changed once a week or ten days. With this slight attention good healthy bulbs will produce very fair flowers, and will ornament the parlour window for a considerable time. The bulbs, however, will suffer considerably by this water culture. The only thing the amateur can do is to turn them out of the glasses, and lay them in by the heels in the open ground in some shady border. They will here ripen their bulbs, and will do to plant in the mixed border the following season.

In Pots.—By this mode of growing Hyacinths great numbers are cultivated for the London market. I have seen upwards of a thousand exhibited for sale on a spring morning in Covent Garden alone. Whoever wishes to see them next spring must rise early, as they are all sold to the retailers or removed home again before eight o'clock in the morning.

The soil for Hyacinths in pots should be rich and firm. Turfy loam two-thirds, and well-decomposed cow-dung, at least two years old, one-third, will form as good stuff as needs be for them, and it will be an improvement if a liberal sprinkling of sharp river sand be added. The pots for Hyacinths are deeper and more upright than ordinary, but they will do very well in the size called 48's, which are nearly five inches in diameter. Place one bulb in each. If more than one is put into one pot the size must be proportionably larger. In potting lay an oyster-shell or a piece of broken pot over the hole; then put in about an inch of soil, press it down very firm; then add a second inch, and press it down firmly also, and so proceed till the pot is nearly full. Then place the bulb upon the soil, and add soil enough to just cover it, excepting the very apex of the bulb. To keep the bulb from rising up (which it will do, or rather, the roots as they spring forth will lift the bulb up), press the soil around it even more hard than that under it. I have always found this hard pressing of service. It prevents the roots so quickly rushing down to the bottom of the pot, thus giving them time to gather up nourishment during their descent.

The season for potting is as early in October as may be convenient. For a succession a second batch might be potted towards the end of November.

As soon as they are potted place the pots in a bed in neat straight lines, and cover them over with sifted coal ashes or rotten tanners' bark, or even sawdust would do (though I think ashes the best), three or four inches deep. Here they are to remain to form roots and just start in growth. Then take a portion out at a time, wash the pots, clear off the ashes, and place them in an intermediate house, one a few degrees warmer than a common greenhouse, though the latter will answer well where very early flowers are not required or cared for. Whilst here they should be freely watered, and the flower-stems supported with neat green sticks or wire supports.

As soon as the blooming season is over the pots should be removed into a favourable situation, and there be plunged quite overhead in the ordinary soil. Continue to water them freely, and thus the bulbs will be regularly fed, and will become very fair plants for borders the following year.

In Beds in the Open Ground.—This is the method adopted by the Dutch cultivators. In Holland they grow many acres of the Hyacinth alone, and send the bulbs to England and other countries for sale. I once saw a bed of Hyacinths grown in Col. Dickson's garden at Gledhow, near Leeds, in Yorkshire, as fine as ever they had been grown in Holland; but it took a large amount of care, material, and skill to grow them so well. In the first place all the old soil was taken out to the depth of eighteen inches; then a layer of broken brick ends was laid over the bottom; upon that was placed a layer of dung two inches thick; and then the remaining space was filled up with a compost of two-thirds of fresh loam, one-third of leaf mould, and one-third of well-decomposed dung. This was done early in August; the soil was kept up to its height (six inches above the general level) by adding sufficient compost for that purpose as the first quantity settled. In October the bulbs were planted two inches deep, and I firmly believe finer flowers were never seen. In the summer I saw the bulbs taken up, and they were as fine as any ever seen imported from Holland. No doubt Dutch bulbs can be bought cheaper than an English cultivator could afford to grow them; yet I have no doubt on the sea-coast, where the land is alluvial, Hyacinths might be grown to profit by as little expense in culture as any other flower requires. In all cases I would recommend the grower for pleasure to take out the old soil as deep as he can afford, and replace it with soil of a similar character to the compost described above for pots. Whether he succeeds in producing finer bulbs or not, he will be sure to have much finer flowers than his neighbours who have taken no care at all.

T. Appleby.

(*To be continued.*)

RIBBON BORDERS.

I have made as many new kinds of ribbons with flowers as any of the Manchester people did in "textile fabric;" and once in my lifetime I assisted in making a plaid border with annuals—a tartan border is the right Scottish name. It was in the Garden (Experimental) of the Caledonian Horticultural Society in Edinburgh, and Mr. Barnet, who has been one of the "heads of departments" at the Royal Botanic Gardens, Regent's Park, for some years past, was the manufacturer of the plaid border. It was very odd, and it did not "take." It was the first attempt I had seen in planting in single stripes; but the cross stripes in the border were difficult to manage, and the pattern could not be said to be a fancy pattern, or be included in any of the clan tartans, but it was a thing of many colours.

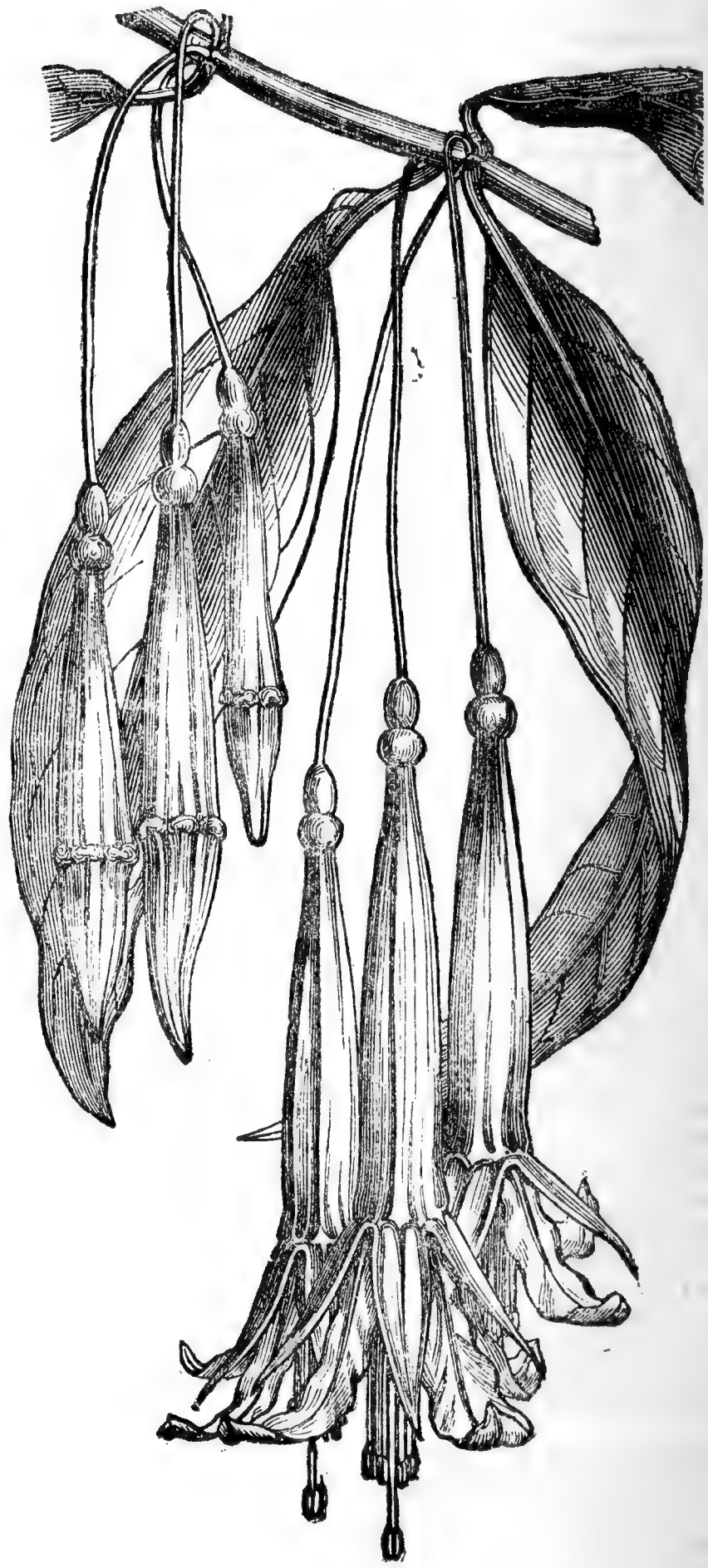
Ribbons have progressed rapidly in public favour, however, and to keep it in fashion it is necessary to have them of as many patterns as suitable plants can be procured or thought of. Every new line of a ribbon, therefore, is of real practical value. We planted a line this season which turned the tide from against two very old plants, the Fox-tail plant of the French, and the Prince of Wales's Feather in England. Love-lies-bleeding and Prince's Feather, plant for plant in a row, give a full yard of brilliant purple in one place, and at 100 yards distance would puzzle one to make out what plants they could be.

D. Beaton.

FUCHSIA VENUSTA.

(Beautiful Fuchsia.)

This is a very handsome and distinct greenhouse species, having slender and somewhat hairy branches, and spear-head shaped, pointed, smooth leaves, usually in whorls of three. From the axils of the leaves grow the pendent flowers three inches long, consisting of a tube, conical, tapering to the base, and divided at the mouth into four pointed, broadish, spear-head-shaped sepals; the oblong, spear-head-shaped petals are of an orange red colour, wavy, and rather turned back at the point; the calyx, tube, and sepals salmon red, and the sepals tipped with pale green as in *Fuchsia serratifolia*.



This is a native of New Granada, from the environs of Merida, and near Santa Fe de Bogota, at an elevation of nearly 8000 feet. It was introduced to Europe during 1847 by Mr. Linden. It had been previously found at Santa Fe de Bogota by Mr. Hartweg, but its seeds perished during their transmission home.

PINUS FREMONTIANA.

This has also been called *Pinus monophylla* or Nut Pine, and *P. Llaveana*, with a thin-shelled seed. It was found in California by Mr. Hartweg

Leaves generally in threes, but not unfrequently in pairs, or even solitary, from one inch and a half to three inches in length, of a glaucous green, more or less curved, very stout, rigid, and ending in a spiny point; sheaths very short and rolled backwards on the older leaves. Seed leaves from eight to ten, but mostly nine in number, rather long and very stout. Branches numerous, the principal ones round the stem in a whorl. Bark smooth and of a light brown colour. Buds small, cylindrical, three quarters of an inch in length. Cones of a light glossy brown colour, two inches and a half long and one inch and three quarters broad in the widest part, which is near the middle. Each cone contains from six to seven rows of scales. Scales very thick, largest near the middle, bluntly pyramidal, slightly angular, and more or less recurved downwards, particularly the smaller ones nearest the base; they are also without any points. Seeds wingless, oblong or egg-shaped, half an inch in length, bright yellow, more or less stained with dark brown, and the shell so thin that it is very easily broken between the finger and thumb. Kernel very pleasant in flavour, and also nutritious, as it constitutes the principal subsistence of the Indians who live in the mountains where it grows, for nine months out of the twelve.

It was first discovered by Captain Fremont, during his "Exploring Expedition," when crossing the Sierra Nevada, or Great Californian Mountains, growing upon both sides, and extending over the top of the great Snowy Chain for a distance of 300 miles. The tree seldom attains a height of more than twenty feet, or eight or ten inches in diameter, but is very branching, and has a peculiar but pleasant odour when bruised. It is perfectly hardy, for Captain Fremont frequently found the thermometer at 2° below zero at night, and four feet of snow where it grew. The cones are produced in great abundance. The seeds are gathered by the Indians for their principal winter and spring subsistence, and are either taken out and kept dry in their huts or left in their natural storehouse, the cones, in heaps under the trees, where they remain tolerably dry until wanted for use. The Indians are said to live upon them alone for months and months without any other kind of food.

Dr. Torrey first gave the name of *monophylla* to this Pine, from a supposition that the leaves were mostly solitary; but Professor Endlicher, who afterwards examined more perfect specimens, found that the leaves were in twos and threes, and that the solitary leaves arose from Dr. Torrey's specimens being gathered from stunted plants; he consequently altered Dr. Torrey's name of *monophylla* to that of *Fremontiana* in compliment to Captain Fremont, its first discoverer.

Shortly before leaving California for England Mr. Hartweg was informed by persons at Monterey that seeds of the Nut Pine might still be obtained from the Indians in the mountains, who at the proper season bring them down to the coast for sale. Upon this information Mr. Hartweg made a journey into the mountains, and found a few seeds still remaining at one of the Indian huts, and two cones, which he purchased from the inhabitant. The seeds being in tolerably good condition at the time soon came up after being received at the Gardens, and a portion was distributed under the name of "*Pinus Llaveana*, with a thin-shelled seed."

This Pine will be found a very desirable plant, although not one for timber, but for its beautiful almond-flavoured nuts, which may be grown in England in the same way as the Stone Pine is in the South of Europe.—(*Horticultural Society's Journal.*)

FLOWER PEGS.

At page 408 of the last volume of The Cottage Gardener is an article from the pen of Mr. Forsyth on the best construction of flower pegs. These are doubtless often convenient, but for my own part I have long discarded their use in laying down the smaller kinds of shoots or flowers. The substitute I have adopted is always within reach, being simply a strip of bast mat: usually about ten inches long suffices. Tie the ends together so as to form a loop, and slip this over the stalk or shoot you wish to pin down, or pass the strip of bast round the shoot, and tie the ends after. Push the bast loop into the ground, which will there firmly remain, out of sight if you please. The only tool needed for the operation is a narrow thin piece of wood of any convenient length, a little notched out or forked at the lower end to prevent the bast from slipping away from the end of the piece of wood when it is forced downwards.—H. T.

CUPRESSUS GOVENIANA.

Raised from Californian seeds collected by Mr. Hartweg.

Leaves imbricated, blunt, thickly set in four rows, and bright green on the old plants; expanded, awl-shaped, very distant, more or less reflexed, sharp pointed and rather slender on the young plants. Branches very irregular on the main stem, some being opposite, others alternate, very

numerous, slender, and rather pendent; lateral branches spiral, frequently opposite, very dense, and of a beautiful bright green colour. Cones in large clusters, globular, half an inch in diameter, each having from six to eight scales, which are nearly all four-sided and elevated in the centre to a blunt point. Seeds numerous to each scale, rather small, dark brown, without vittæ, irregularly angular, and membranous at the edges. Seed leaves mostly in threes, seldom in fours.

This fine Cypress was first discovered by Mr. Hartweg on the western declivity of the mountains of Monterey in Upper California, within two miles of the seashore, in company with *Pinus muricata*, forming a dense bush from six feet to ten feet in height. It is at once distinguished from the other Californian species by its very much smaller cones and more spreading, slender, somewhat pendulous branches. It has the same beautiful bright green colour, both in its foliage and branches, as *Cupressus macrocarpa*, and is a most desirable evergreen, which will prove quite hardy.

It has been named in compliment to James Robert Gowen, Esq., the Society's present Secretary.—(*Horticultural Society's Journal.*)

SHORT CULTURAL NOTES FOR WINDOW GARDENERS.

(*Continued from page* 4.)

Verbena.—Varieties of these fashionable flowers are easily obtained from seeds. Esteemed kinds are easily secured by cuttings, which strike freely, if kept close under a bellglass or square of glass, at all times except the winter months. For flower garden and verandah the great proportion may be struck in spring from plants saved over the winter. For that purpose, and also for early plants to bloom in the window, stiff little side-shoots from one inch and a half to two inches long should be slipped off close to the older stem in August. When a good portion of the leaves are removed hold a number of cuttings by their base in your hand, and pull them several times through some tobacco water, in case there should be any insects upon them. Place them then about one inch apart in well-drained pots, supplied with sandy soil, and sand on the surface, and to be covered with a bellglass if you have no frame. As soon as rooted give air, gently at first, and then freely. If the window in which they are placed is cool, give a little air at night by tilting the glass, and shut down in the morning. Where this operation would be considered too nice lay the points of your growing plants in small pots, keeping them down with a small stone until well rooted, when, to save room, you may put several of these small plants into a six-inch pot. These will be far superior for standing the winter than any old plants, however fine. Do not let them get chilled by keeping them out too long in October. Now, if you have a spare room, such as a lumber-room with a window and a fireplace, that you might use in extreme cases, you may keep your Verbenas as nicely as the best gardener in the country, because you can give plenty of fresh air, and keep frost from entering. They keep very unsatisfactorily in a general living room, because there are great alternations of temperature; and they suffer greatly from the dried, heated, unwholesome air which some people will insist upon in cold, cloudy weather. In the month of February, some years ago, I saw about a score of store cutting pots on a table near the window in such a spare room, and even a nurseryman might have envied them. In frosty nights the table was moved to the middle of the room. In several severe nights two bottles, holding a gallon each, and filled with hot water, were placed near the table. Only on one occasion had a fire been put in the rusty grate: the owner was well satisfied if the thermometer on the table was above 32°. Many other bedding plants were preserved in the same manner.

Violets.—The double Russian blue, the tree Violet, and the Neapolitan, I consider the best for the window and balcony. I have never met a lady who would not repay you with her best smile for a bunch of Violets at any time, and especially in the winter and early spring months. The Neapolitan is my greatest favourite, and if you manage it well you will have no difficulty with the others. The following is as good and simple a plan as any:—In May, or as soon as the plants are past their best, turn them out of their pots, and break each plant into as many as you can get a fine, plump, little head and roots to it. Plant these separately into a well-dug, aërated, and enriched border, and from six to twelve inches apart, choosing an eastern site in preference to a southern or western, and a western is the second best. Water, and repot when necessary. If anything like red spider appears, syringe, and use dustings of sulphur until they are gone. As they grow many runners will appear, but every one must be nipped off as it comes, and the whole strength of the roots thrown to the increasing the size of the head of the plant that is to produce the bloom. Keep the runners down and the ground surface stirred, and all weeds at bay, and by September you will have nice, compact, strong plants, showing their bloom-buds, waiting your leisure for placing them carefully in light, loamy, rich soil, each in a six-inch pot; and when, by the end of October, you place them in your window, you will soon know that you have something near you more delightfully fragrant than obtrusively beautiful. They will soon show their discontent if you treat them with mistaken kindness, and keep them in a hot, dried atmosphere. Give all the air possible in winter, and in sunny days moisten and clean their foliage.

Wallflowers.—Many of our city brethren are glad even of the single varieties in their windows and balconies, and which, if sown any spring time before Midsummer, will bloom early next spring. Most people prefer for windows the double varieties, and of these there is a considerable number, with yellow, crimson, orange, purple, and somewhat mottled flowers, and all exceedingly sweet. They are best raised from cuttings in May and June in sandy soil, under a handlight, bellglass, or square of glass. Cuttings may be taken at an earlier period from the points of shoots that have not bloomed. When the flower-stalks are pruned back when done flowering, and the plants are well watered, nice stubby side-shoots will soon be thrown out, and the thinnings of these will make excellent cuttings when between two and three inches in length. Young plants thus cut back will bloom very nicely the following year, after which they should be discarded, and their place taken by those struck this summer, and which will bloom a little next year. Such plants about two years old produce strong flower-stalks; after that period, though produced freely, they are generally inferior taken individually. Rich sandy loam suits them well, and, as soon as the flower-buds begin to peep, manure waterings will do them great good. They will be safe enough in a room during winter if kept rather dry, and not much frost admitted, though it would be as well if no frost touched them, but the temperature ranged from 33° to 40°. For rocks and small pot plants out of doors few things are more beautiful than *alpinus*, yellow, and *Marshallii*, orange.

Wardian Case.—I have already described a propagating case for a parlour, and what might be termed a table greenhouse. Wardian cases are now made of all sizes and patterns, from the most artistic and adorned to the simple large bellglass that stands upon a plate, and thus covers all the plants beneath it. It was supposed that by their aid plants might be grown in windows without being subjected to dust, smoke, or a dried atmosphere, and without the trouble of air-giving or watering, unless very seldom indeed. It was contended that the carbonic acid given off at night would be absorbed during the day, and that thus the plants would alternately pollute and rectify their own atmosphere. It was also contended that the water evaporated during the day would be condensed and fall again, and none would be lost. Whatever may be said of the theory, it did not stand the test of experience; and therefore the possessors of the largest as well as the smallest of these have means of watering and air-giving, either by opening a part, or lifting the whole off from the tray on which the plants and their earth are placed. These cases do best when shaded if exposed to the midday sun. When the plants are established they will stand the morning sun and evening sun uninjured. In getting one made it would be important to have a drawer below the slate or other tray on which the plants stand, so as through holes in the plate to receive the extra moisture. That drawer could also easily be supplied with hot water in winter, and if too much moisture would ascend the drain-holes might be temporarily plugged. The surface even of a small case may be made somewhat romantic, if such a word can be applied to such a tiny concern. The soil used should be chiefly fibry peat and loam; and the plants most suited for a small case are *Lycopodium densum*, *denticulatum*, *violaceum*, *stoloniferum*, *Willdenovii*; and such Ferns as *Adiantum pedatum*, *cuneatum*, *formosum*, *Asplenium ebeneum*, and *Gymnogramma leptophylla* and *sulphurea*—the last to go in the centre.

Some of our window gardeners combine the Wardian case with an Aquarium below, and manage the latter better than I should be likely to do. They have means of giving air to both, and can move the plant case from the aquarium when necessary. To do anything with the latter in little space, the fishes, insects, molluscs, &c., should be small, in order that they may be more easily managed; and the plants introduced should also be small, as *Hottonia palustris*, *Valisneria spiralis*, and *Aponogeton distachyon*, and any other small water plants. These may either be planted in soil at the bottom of the tank or kept growing in pots, so as to be easily changed and rectified. The glass should be slightly shaded in bright days.

The general directions and the list of plants will by many

be deemed too extended, and by others they are considered too limited. The best and most suitable plants have been indicated, and others may be tried by those who love variety and novelty. R. Fish.

SUCCESS AND FAILURE IN TRANSPLANTING LARGE TREES AND SHRUBS.

Of late years the removal and replanting of large trees and shrubs have attracted much attention, and as in some cases they have succeeded, those who had the management in those places are loud in their assertions that the same could be done everywhere, and allege a want of skill and attention on the part of those who have not been so fortunate with their removals. This requiring some explanation I make no apology for devoting a few lines to so important a subject, and for stating a few of the leading points.

In the first place it is proper to call the reader's attention to the fact that the late Sir Henry Stuart effected the removal of tolerably large trees about fifty years ago by means of a machine, the lifting part of which acted in the same way as the usual two-wheeled timber carriages of the present day lift their load from the ground, that is, the pole is used as a lever; and in his work published about that time he was very sanguine of the success which might attend even the universal adoption of this mode of planting large trees in extensive plantations for profit. Whether this could be carried out or not is not worth while inquiring; but certainly his success as a planter has not been excelled by that of any one since; but since his time other machines have been contrived, and larger trees probably have been removed; and in some instances we are told that deciduous trees have been removed in summer without the loss of a leaf, and some other marvellous feats are told of being performed with the assistance of "somebody's" magical transplanting machine. This may be all partly true, or even wholly so; but I question much if they do not attribute too much of the success to the manipulation, and too little to other circumstances over which they have no control. A little inquiry, I think, will show the latter to be the case, and explain the reason why the same amount of management is unsuccessful elsewhere.

Let us suppose two ordinary cases under operation, the one in Lancashire, the other in Kent or Sussex; and at the same time let us take an ordinary case into consideration, and one on which hangs the whole question of success in planting. Happening to be in the neighbourhood of Manchester about the middle of last month, I witnessed the fall of nearly as much rain in two days as I have registered in Kent during the months of May, June, and July of the present year, which has not been a remarkable one. Now, it is very easy to see that the same success cannot well be expected in the one place as in the other; for we all know that rain fell at other times than on the 13th and 14th of August, the days I allude to. On this hangs the whole mystery of planting; for an Oak tree of forty feet high, and a Lettuce plant of less than four inches, are equally benefited by the refreshing moisture which rain brings with it, and as every one knows the advantage of planting out the latter in showery weather, especially in dry seasons and situations, the other is equally benefited by copious supplies of this all-invigorating fluid; and as we all know the utility of a damp atmosphere, as well as of damp earth, in supplying those juices to a plant which the necessarily mutilated roots of newly-planted trees are unable to afford, we may easily account for the success which attends the planting of large trees or shrubs in those counties where rain falls most abundantly, and a corresponding failure where there is least rain, more especially in the early summer months.

If those interested in such matters would but take these two cases into consideration they would see that the difference in success was not in all cases owing to the treatment, but to causes over which the cultivator has little or no control. True, he may deluge with water the ground the newly-planted tree grows on; but how is he to give that agreeable humidity to the atmosphere which rain alone can supply? We all know the benefit a plant derives from its foliage, especially when enjoying a congenial sphere of breathing, which it does when the air is loaded with moisture consequent on rain; but suppose a reversed state of things, that is, a dry atmosphere, roots mutilated, which they must be by removal, and the tree either struggling for an existence in a dry or stony soil, or probably the latter may be saturated with cold spring water, an extreme almost as bad as the other.

Now, taking these respective cases (and they are very common ones) into consideration, we need not wonder at the difference which is said to exist in the different neighbourhoods in the planting of large trees or shrubs.

As has been often said, "There are no rules without exceptions;" neither is this one, for seasons will occasionally occur in which a greater amount of rain than usual may fall in the dry districts mentioned above, or it may perhaps fall just at the time when wanted by the newly-planted trees, so that they may succeed as well as they do in the north-western counties or in Scotland, where, in a general way, greater quantities of rain fall in most years. That an overplus of moisture is not necessary for established trees I fully believe, as most forest trees attain a greater size in those counties esteemed the driest; but a newly-planted specimen is another thing, and must be regarded as an artificial operation, and liable to its corresponding mishaps. True, we see large trees occasionally removed by Nature, and planted again by her, and flourish; but that is always done in the rainy season. Large trees by the side of rivers may be undermined by the stream, and, carried down many miles, may be so landed at last as to grow again; but there is not likely to be any lack of moisture for some time where these are planted. We cannot imitate that; but one thing we ought to learn—that the further we deviate from this copy the less our chance of success. Most of the trees washed away by rivers are those inhabiting their moist banks, and are finally deposited in a place somewhat like the one they were taken from, and consequently prosper in like manner. We may do so likewise; but when we remove a large specimen, whose roots ramify very far in search of that scanty moisture so necessary to the plant's existence, we must be content with a less measure of success when, in addition to the disabled roots, the foliage has to struggle against an atmosphere dry almost as the deserts of Arabia. Success under such circumstances is a more difficult matter; hence the difference between planting in Sussex and Derbyshire, or any two oppositely placed districts in regard to the quantity of rain that falls in each respectively.

While on this subject I may observe that I, for one, regard the success or failure in most of the crops or other products of the open air as being more due to natural causes over which we have no control than most people are willing to admit. I do not know that I am overstepping the mark by supposing that full four-fifths, or eighty per cent., of the credit of all crops is due to the season or natural advantages, and the cultivator makes more or less of the remaining twenty as the case may be. In no case will I allow that he makes up the whole of it by any amount of skill he has yet brought to bear on the matter; but it is on the total amount that he is able to effect that the difference in cultivated articles really exists, always taking into account the season,

and natural circumstances as well. Now, this rule is equally, if not more applicable in the planting of large trees or shrubs; and consequently, as natural results differ in some degree as well as artificial, it follows that any difference effecting the greater amount, or eighty per cent. proportion of success, must have greater weight in the ultimate result than any ordinary alteration in the lower figure, that is, in the twenty, or portion under the command of the cultivator.

I know this mode of reasoning is likely to meet with much opposition, and I am far from asserting that my calculations are correct ones. All I want to affirm is that the season, situation, and other circumstances of a natural kind have more influence on the well or ill-being of a crop or plant than anything the cultivator can do, and in no case is this exemplified better than in the planting of large trees and shrubs. A Stuart may plant large trees in Dumfries, Cumberland, or Lancashire with a success which he would look for in vain in Kent, Essex, or Suffolk, although he might even take more pains in the latter districts. He would find the comparative dryness of the climate of these places, which, though useful enough in the ripening of grain and fruits, afford him little assistance in repairing the injury done to a large tree by removing it, although, if left alone where it was, the same climate would very probably have assisted it to perfect a growth unequalled by anything of its kind in moister districts. That any one locality should be favoured with all the benefits of all the others united is at variance with the all-wise arrangements of Providence. So to expect success in everything in one place is as unreasonable as finding fault with that equitable arrangement so beautifully carried out in everything else. J. Robson.

HIBISCUS GRANDIFLORUS IN THE OPEN BORDER.

Hibiscus grandiflorus is here perfectly herbaceous. It has been here for twelve or fifteen years, and has never had any protection whatever. It flowers beautifully, but has no chance of maturing seed out of doors. It usually commences blooming early in September. The price at which we sell it is 2*s.* 6*d.* per plant. It has just followed the large flowers of *Amaryllis longifolia*, and now bears company with all the varieties of *Hibiscus Syriacus*, *Crocus autumnalis*, *Tritoma uvaria*, *Sternbergia lutea*, &c.—W. Upright, *Hill Nursery, Southampton.*

[Mr. Upright sent, at the end of September, four heads of this magnificent herbaceous American plant from the open ground. We never saw finer or richer flowers in the family. There were two varieties of it. The old *grandiflorus* itself is of exactly the same tint as the *Belladonna* Lily, and the opening across these flowers was full five inches. The variety is of a deeper tint, and is blotched with crimson on the edges. The flowers on each shoot open two, three, or more at a time, and the rest come in succession as in the Mallow. The way to bloom this beautiful plant north of London would be to take it up with a ball like a scarlet Lobelia, to keep it from the frost, and turn it out at the end of spring, supplying it very abundantly with water in June, July, and August. In a late season, if the frost came early, it could be lifted as easily as a Pompone, to bloom or finish its blooming indoors.]

SMALL BEES.

Since our last notice of small drones we have paid further attention to the subject, and now state with confidence that dwarfs of both workers and drones are bred in their own cells; that is, in the small ones on and near the edges of the combs. Many of such cells are of a size to cramp the larva to produce *dumpy* bees, and others are only mere embryos of cells. Perhaps it was from seeing dwarf bees that Huber was led erroneously to class working bees in two divisions, "wax workers and sculptors," when the difference was only in their size. The following note also, which we had from Mr. Moore, of Stretford, near Manchester, shows that small bees are sometimes bred in new combs as well as in old ones. He says, "The hive from which I obtained the small drone is a new one of this summer, consequently the combs are new, none of the cells diminished by the remains of previous occupants, and not another hive within twelve yards. I inclose you a small worker from the same hive, also a few specimens of Cousin Johns or Fiddlers (we call them here Sink bees), so that you may see them side by side of the small drone, when, I doubt not, you will see a striking difference." When we said that the small drone which Mr. Moore kindly sent us might pass for a large Fiddler we were quite aware of the difference between that insect and the hive bee; but, as one kind is as large as a common drone bee, it would have been better if we had said a small brown one. Our meaning, however, could not be mistaken; and we may note that the whole race of those stingless insects are not so round and *plump* as bees, especially in their abdomens, which do not contain open pockets or segments for the secreting of wax like those of bees that are bred in cells, whose wings are each divided in two, while "Sink bees'" wings are whole like those of flies. Still they seem to have more power of flight than bees, for they will dart past one and suddenly stop with a pleasant hum, and fly off again like an arrow.—J. Wighton.

NEW AND RARE PLANTS.

Rhododendron Windsorii (*Windsor's Rhododendron*).

Found by Mr. Booth at an elevation of from 7000 to 9000 feet in the Bhotan Mountains. Flowers crimson, blooming in June.—(*Botanical Magazine*, *t.* 5008.)

Uroskinnera spectabilis (*Showy Ure-Skinnera*).

So called in honour of G. Ure Skinner, Esq., already pantheonised in *Skinneria*. It is a soft, stout, stove herbaceous plant, grey with close hairs, and somewhat Gesnera-like. It belongs to the Natural Order Scrophulariaceæ, and to Didynamia Angiospermia of Linnæus. Its flowers are pale violet-coloured, in close, stalkless, terminal spikes. It is a native of Western Mexico.—(*Ibid.*, *t.* 5009.)

Epigynium acuminatum (*Pointed-leaved Epigynium*).

This is also known as *Agapetes* and *Thibaudia acuminata*. It belongs to the Natural Order of Whortleberries, and to Decandria Monogynia of Linnæus. It is found at elevations of from 3000 to 4000 feet in the mountains of Sylhet. It is a shrub, averaging three feet in height. Flowers scarlet, in corymbs.—(*Ibid.*, *t.* 5010.)

Dendrobium crepidatum, *var.* labello glabro (*Slippered Dendrobium, with glabrous lip*).

Native of Assam.—(*Ibid.*, *t.* 5011.)

Agapetes buxifolia (*Box-leaved Agapetes*).

Native of elevations of from 2000 to 3000 feet in the Duphla Hills, on the eastern frontier of Bhotan, bordering on Assam. Introduced by Mr. Nuttall. Flowers tubular, scarlet. It is a small bush.—(*Ibid.*, *t.* 5012.)

Meyenia erecta (*Upright Meyenia*).

Native of the western coast of Africa. Discovered near Cape Coast Castle by Dr. Vogel. It is a lax-growing shrub, though trainable upright, about four feet high. Introduced by Messrs. Rollisson, of Tooting Nurseries. Flowers purple, with yellow tubes. It belongs to the Natural Order Acanthaceæ, and to Didynamia Angiospermia of Linnæus. Blooms in June and July.—(*Ibid.*, *t.* 5013.)

QUERIES AND ANSWERS.

VEGETABLE MARROW AT THE HORTICULTURAL SOCIETY'S GARDEN.

"Mr. Beaton forgets when he writes those amusing and interesting letters that he is addressing novices as well as the initiated. For my part I have not the slightest notion about the Horticultural Society beyond its name, or Chiswick Garden, or Surbiton, or Sir W. Middleton, or Dr. Beck, all mentioned in the article on Vegetable Marrows; but the name or description 'of the best kind,' which would be so useful to we amateurs, is entirely omitted. Is it the *Long Green*, or the *Round Green*, or the *Round Yellow?* I have grown all three kinds this summer in my small garden, and for flavour think the latter unsurpassed, though the colour when cooked is that of a Swede Turnip. One that weighed 10¼ lbs. we found to be equal, if not superior, to the small ones usually eaten. As for cooking "Materfamilias" begs to tell Mr. Beaton that, however good his plan of dishing up the Marrows may be, it is most likely they would be cold before reaching the table, and a better way, I apprehend, is to pare and cut them in quarters; take out the seeds; boil them from ten minutes to a quarter of an hour in plenty of water; lay them quickly, the hollow side downwards, upon a drainer in a vegetable dish, and serve with rich white sauce in a separate tureen. They will be found delicious. In these days of amateur gardening, when everybody whose plot of ground is larger than a cheese plate attempts to rear this useful and rapidly-growing vegetable, it is well to know the best mode of cooking as well as the best kind worth cultivating, and I shall be glad to learn if the sort Mr. Beaton mentions is the same as my own, the name of which I am quite unacquainted with."—Materfamilias.

[The best of all Vegetable Marrows, by many degrees, is the kind mentioned by Mr. Beaton. It is of the *Turk's Cap* section, extremely odd-looking, and when full grown and ripe will not weigh more than from 3 lbs. to 5 lbs. Very seldom will it reach 5 lbs. in England. We shall hear of it by and by, and some one will try to make a fortune by selling anything for it, therefore beware. "Materfamilias" is neither just nor generous. Mr. Beaton knows well for whom he writes. He does not know the name of the Gourd he wrote about, however; but the "slightest notion" from the Horticultural Society, Sir W. Middleton, or Dr. Beck might make it known, therefore are they mentioned; and as to Surbiton, on the principle of "no place like home" only is it named. Mr. Beaton has "not the slightest notion" of the kind of Gourd which "Materfamilias" has found to be the best, although he knows fourteen kinds of "round yellow" Gourds; but he knows a better Gourd than all of them put together—a pear-shaped, yellow kind, and if "Materfamilias" will send him a stamped envelope he will return half a dozen of the seed, when they are ripe, to "Materfamilias," with his best thanks for the cooking hint, and would tell her in return that custardised Vegetable Marrow, if iced as he often did, is one of the scarce luxuries; so in one shape at least it can never come to table too cold.]

PEACHES DROPPING AND DECAYING BEFORE RIPE.

"I shall feel much obliged to any one giving me information as to what can be the cause of my Peaches dropping off the trees before they are ripe. They show a very large hole where they separate from the footstalk, generally diseased. I have cut open some of the fruit, and found the stone to open with the least pressure, and within I find a small mouldy seed. The disease will attack other fruit on the side, and spreads very quickly over the fruit affected, and finally it gets covered with a white warty-like fungus, which makes the Peach have the appearance of a lycoperdon (puff ball) hanging on the wall. The border is a black loam, resting upon a cold, gravelly clay, which appears to be full of iron. Apricots and Plums are subject to the same disease."—J. S., *Surrey*.

[The origin of the evil we consider is the clayey, cold, irony subsoil. Such a subsoil checks the action of the roots, chills them, and prevents their supplying sap sufficient to keep pace with the rapid growth of the fruit. Whenever this happens gangrene appears, such as shanking and the spot in Grapes, and after this gangrene appears the fungi quickly appear to feed on the corruption, which is their favourite pasturage. Draining the soil, cutting away the deep-striking roots, and manuring the surface to keep the roots in its vicinity are the best remedies. This premature decay of stone fruit is also occurring in America, for we have the following from the *Ohio Farmer:*—

"The crop of Plums the present season is unusually large. Trees that for several years had dropped their whole crop of fruit from the effects of the curculio are now bending down with a rich load. The curculio had stung part, but only enough to benefit those left by a moderate thinning. It was not until the fruit approached maturity that the rot became apparent, and, as far as was observed, it prevailed principally among the green varieties, the red and purple being generally exempt. The first symptom is a small discoloration on one spot, no particular part of the fruit being more or less liable than another. This spot is always of a purple hue, with a bluish white bloom. In the course of a day this discoloration will extend over the whole fruit, although a longer period is sometimes necessary. When the fruit is cut open the whole flesh is found to be disorganised, the taste nauseous, with a slightly disagreeable smell, the latter increasing with the more thorough decay. The disease seems to attack fruit from the surface; this can be easily seen by cutting a plum that has exhibited the first decayed spot. It will be found to extend over a larger amount of surface than it has penetrated in depth, the first spot merely involving the layers of cells next the skin. After hanging on the tree for some time after rotting the fruit shrivels, and if it does not drop off will dry completely, but the diseased fruit generally drops off. When the rot is fairly established the skin becomes more or less covered with a small whitish fungus, which, bursting, emits a large number of comparatively large oval spores. The cells of the decayed flesh are broken up, and the mass is filled with very small thread-like filaments. We have examined Peaches and Crab Apples affected in the same manner, but the fungus on the surface of the Peach appears to be somewhat different.

"Whether this fungus is the cause of the rot, or grows upon the fruit in consequence of its decay, we do not know, but a nearly-related parasite is sometimes found on the Potato. We can see that the ramification of the fungus throughout the fruit may produce decay; but the growth of the parasite may not take place until decay is established. It is probable that atmospheric changes, like the cold nights and hot days of the latter part of August, may be the cause; and this is quite likely, for the chemical changes which the juice of the fruit undergoes just before ripening may be stopped, and by this means cause decay of its cellular tissue. In this state fungoid forms will speedily make their appearance; but, whatever is the cause, it will be well for fruit culturists to attend to this disease, and, if possible, discover a remedy."]

ANGELICA.—ERYSIMUM PEROFSKIANUM.—RANUNCULUSES.

"1. Is it *Angelica sylvestris* that is used for making the preserve of that name? If it is, when should it be gathered, and what is the receipt for making it?"

[*Angelica archangelica* is the true medicinal kind, and the right kind for preserving, and the leaf-stalks are the parts used. There are full directions for its culture and preserving in our No. 363, p. 429, Vol. XIV.]

"2. What book will best explain the arrangement of the Natural System as used by Hooker and Arnott in their 'British Flora?'"

[Hogg's "History of the Vegetable Kingdom," after Decandolle, will explain the arrangement. Moreover, it is a work which deserves extensive circulation.]

"3. Would *Erysimum Perofskianum*, if pegged down, and the flower-stalks cut off as soon as they go to seed, make a good bedding plant, and continue in flower till October?"

[Yes, and that is the proper way to manage it; but by September it gets ragged.]

"4. Of Dutch, Scotch, and Turban Ranunculuses which sort do you recommend for bedding, and which for pots?"

[The Turbans only. None of them are good pot plants.]

A Subscriber.

TO CORRESPONDENTS.

Compost for Greenhouse Plants (*Alice*).—We cannot determine the name of your Geranium from the leaf. The compost to pot "all common greenhouse plants" in, is too wide a question to be decided off hand. Three parts loam and one part of peat and sand will suit a vast number of greenhouse plants. Some of the softest and fast-growing kinds require leaf mould or very rotten dung instead of the peat. Some kinds require three parts peat and one part loam and sand, and some all peat and sand. A compost of rotten garden refuse or leaf mould one part, and three parts of loam from the Onion or Cauliflower borders of the kitchen garden, with one-sixth part of sand, will do to pot bedding plants in; and for seedlings and cuttings of the same use double the above quantity of sand. This is the easiest compost of all, as all gardens can supply it except the sand, and any kind of sand will do. It is not so good, however, as fresh soil from a common or pasture.

Lilies (*Paul Ricaut*).—Your Lilies will not suit in a continuous row, but a row of them in patches not nearer than a yard will look well on a mixed border. Plant the bulbs four inches deep, and do not disturb them for a very long time, or till you see signs of weakness among them. The border should be deep and of light garden soil, not very sandy, or of a binding nature. An inch of sand under them, round them, and over them is better than all the composts that could be made, and it is a good plan to mulch well over them in winter.

Name of Plant.—Calceolaria Cuttings (*J. S. L.*).—The plant sent is the *Leonotis leonurus*, an ornamental winter-flowering plant; and as your plant is in the ground it should be lifted with very great care, so that a single leaf or blossom should not feel it, and then it will flower half the winter in a cool conservatory-like place. Nothing can be better than your unoccupied pit for cuttings of any kind, and in which they may remain till next March. The *Calcéolaria cuttings* will do well in the same pit, as very little more heat is required than just enough to exclude all frosts; then the pit will suit all your cuttings the whole winter.

Pruning the Vine (*Doctor's Boy*).—Very interesting. Another instance of experience tallying with the experiment. The members of the Pomological Society would be gratified with the fruit and the history of the orchard selection and so forth.

Caterpillars on Cabbages (*An Old Subscriber*).—There is no remedy like hand-picking; and we can say from long experience that very little care and trouble in this way are effectual. Caterpillars are killed by dusting over them the powder of white Hellebore.

Garden Pegs.—*A Devonshire Dumpling* has inclosed us a peg evidencing more sense than might be expected from his assumed name. A three-feet lath is cut up into twenty-seven pegs, each four inches long and a quarter of an inch wide. It is sharpened at the end to be thrust into the ground. A small hole is bored through the other end, and a piece of the flexible garden wire passed through it. This wire is twisted round the layer or branch to be pegged.

Potatoes (*M.*).—Walnut-leaved and Ash-leaved Kidneys may be obtained of any seedsman in London. The *Onwards* we have but few of, and we must devise some plan of distributing them widely.

Planting Flowers. (*J. Green*).—Lavender and Mignonette would be as tempting to children as Geraniums. We cannot advise on such a point.

Trenching (*Idem*).—The following is from The Cottage Gardener's Dictionary:—"Trenching is one of the readiest modes in the gardener's power for renovating his soil. The process is thus conducted. From the end of the piece of ground where it is intended to begin take out a trench two spades deep, and twenty inches wide, and wheel the earth to the opposite end to fill up and finish the last ridge. Measure off the width of another trench, then stretch the line and mark it out with the spade. Proceed in this way until the whole of the ridges are outlined, after which begin at one end, and fill up the bottom of the first trench with the surface or 'top spit' of the second one; then take the 'bottom spit' of the latter, and throw it in such a way over the other as to form an elevated sharp-pointed ridge. By this means a portion of fresh soil is annually brought on the surface in the place of that which the crop of the past season may have in some measure exhausted."

Crocuses (*T. A.*).—You may take them up now; but if you do not require their removal for some purpose they will be much finer if left undisturbed.

Cerastium tomentosum (*T. M.*).—No specimen was inclosed.

Names of Plants (*S. Taylor*).—Your plant marked No. 1 is one of the Sedums, and from so small a specimen as the bit sent we believe it to be the common Orpine or Live-long *Sedum telephium*. The plant No. 2 is the Moth Mullein, *Verbascum blattaria*, not at all a common plant. (*Pinus*).—We think it is the seed of *Pinus pinea*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

October 28th and 29th. Dorsetshire. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close October 14th.

November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder, Cirencester.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th, and 13th, 1858. Crystal Palace.

January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, Preston.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

HINT TO POULTRY-KEEPERS.

Increase the quantity of food given to poultry, and close the windows or ventilators of their houses at night. Mornings and evenings are cold, and the birds are in bad feather now.

WORCESTER POULTRY SHOW.

October 1st and 2nd.

We are now accustomed to report these meetings, having considerable experience therein, and we endeavour to do so with truth and impartiality. Without fear of contradiction we assert, then, this was one of the best managed and most comfortable shows we have ever attended. We cannot do better than print the exclamation of one who is seen at most of the principal exhibitions: "This is indeed a gentleman's show!" It was held in the Corn Exchange, a very large, lofty, square building, perfectly lighted from above. In this place were ranged 194 pens of poultry, all birds of this year, and as near perfection as may be attained. Cooke's pens, from Colchester, were hired for the occasion, and they again proved they are the best we have ever had. The Show was open only a day and a half, as it was in connection with the Worcestershire Agricultural Society's Meeting. Every bird was packed and at the railway station by half-past seven on the evening of the Exhibition day; but we have heard the railway company did not keep their promise of sending them all away the same evening.

Although it paid its expenses, yet, as it did not carry out the original intention of its promoters, it is our duty to give to the public the result of our inquiries on the spot.

The original intention was to have a Chicken Show of 500 entries. Failing that number, the Committee pledged themselves to return all entry monies in full. They amounted only to 200. The Committee then wrote to every intending exhibitor, stating their willingness to carry out the Show, reducing the prizes one-half. It must be recollected they anticipated no personal advantage, as they published in their rules that all profits would be handed over to the Worcestershire Agricultural Society. If, then, with 200 entries, they offered half the sum in prizes that were to be the rewards of the successful among 500 competing pens, the balance was in favour of exhibitors, and we think the Committee are entitled to the thanks of the poultry world for their exertions, and for their straightforward manner of dealing. Most of those who had entered appreciated their upright and anxious endeavours; some, however, did not, and wrote in peremptory terms for the return of ten shillings without delay, and

others would admit of no excuse. The Committee wished for neither one nor the other, and even prepared to carry out all their engagements, which they did, as we have before stated. The Show was successful, inasmuch as it paid its expenses. We will, then, ask ourselves why it had not more entries? It was for chickens only, and followed closely on the Crystal Palace and Gloucester. The entries were also high—ten shillings per pen. Few amateurs have enough good chickens to make up many pens, and they have learned by experience that those that are much shown in the summer feel it at the winter trials of strength. It is also now well understood that the second-rate birds will not win, and if the entries are high it deters many from sending. Our impression is, that the entrance fee for chickens should not exceed five shillings, and the exhibition should not be within two months of any other.

There has never been so many good birds shown in the same number of pens, and those who did not attend lost one of the greatest treats ever offered to amateurs. There were fourteen pens of wonderful *Dorking* chickens. The Rev. S. Donne was first as usual; but it was a hard run with Mrs. Pettat. The pullets in this lady's pen were the best we have seen this year. They were claimed at £15. Mr. Guest was third, and the Honourable W. Vernon would have figured among the successful had not one of his pullets been removed, being diseased. Every pen was a meritorious one. The White Dorkings maintained the improvement we have noticed at all the recent shows. Those shown by Mr. Allsopp were extraordinary birds. Mr. Rodbard continued his successful career in *Spanish* chickens by taking first prize, followed by Messrs. Brundrit and Fowler. This was also an excellent class. *Cochin-Chinas* are looking up in quality, and their owners appear to be breeding them more carefully than they did some time since. Mr. Stretch, of Liverpool, was first, and Mr. Loe, of the Isle of Wight, second. Both these pens are worthy of especial mention. The Rev. G. F. Hodson was at the head of Grouse Cochins, and Mr. Cattell second. It will be a hard run wherever these birds meet. We now have to do with a class that grows in importance at every show—we allude to the *Game*. Twenty-one pens of beautiful Black-breasted and other Reds, belonging to all our best breeders, entered the lists. The first prize pen belonged to Mr. France, of Powick; nothing could exceed their beauty and goodness. The cock reminded us strongly of the celebrated bird he showed some years since in the single cock class at Birmingham. The pen was claimed at £10 10s. Mr. Moss, of Liverpool, was well up as second, and the commendations will show names among them that are more accustomed to lead than to follow. The Honourable W. Vernon was first in the Greys and Duckwings, followed by Mr. Rodbard.

Pencilled Hamburghs made in themselves an excellent show. Mr. Archer headed the prizes, and a name almost as well known, Mr. Bankes, of Runcorn, followed. The *Spangled* brought nineteen pens into the field; but the Gold were better than the Silver. Mr. Haigh was deservedly distinguished for a capital pen of Golden birds; Messrs. Bird and Beldon followed. We have never seen better Silver-spangled *Polands*, but the Golden were badly represented. An old and respected exhibitor won with an unusually good pen, Mr. Adkins, of Birmingham; Mr. Dixon was second, and in ordinary competition must have been first.

Mr. Fox, of Wellington, took both prizes for Black Polands with perfect birds.

The three prizes for any other breeds went, two to Mr. Fox, of Devizes, for *Malays*, one to Mr. Botham for *Brahma Pootras:* all these were perfect birds.

The *Bantam* chickens were of unusual merit, especially those exhibited by Mr. H. D. Bayley. Mr. Bradwell and Miss Green also well deserved the prizes awarded to them.

The Honourable W. Vernon took all the prizes, as usual, with Game Bantams. They leave nothing to desire.

The *Turkeys* were very large and heavy. Miss Loraine and Mrs. Hill deserve the greatest praise for the condition and size of their birds.

The first prize *Goslings*, belonging to Mr. Brooksbank, weighed 49½ lbs., and Mr. Fowler's 45 lbs.

Mr. Weston, of Aylesbury, took all the *Aylesbury Duck* prizes: his pens weighed 20½ lbs. and 20¼ lbs. Mr. Hedges, of Aylesbury, ran him hard. Mr. Fowler and Mr. Brooksbank were the successful in *Rouens*. A pen of beautiful Brown Call Ducks, and one of Buenos Ayres, belonging respectively to Mr. Dixon and Miss Steele Perkins, closed the awards.

It will be seen that our report is a continued panegyric, and the Show richly deserved it. If anything is wanted to confirm it the names of the competitors will be enough. They will guarantee the quality of the birds shown.

It would be unfair to close without heartily thanking the young Secretary, Mr. Griffiths. Circumstances made his post an arduous, and, in some respects, an unthankful one; but his undeviating politeness and good temper, his anxiety to do his duty strictly, and the zeal with which he worked to the last, entitle him fairly to the acknowledgment we publicly tender.

The Judges were the Rev. R. Pulleine and Mr. Baily.

Coloured Dorkings.—First, Rev. S. Donne, Oswestry. Second, Mrs. Pettat, Ashe, Hampshire. Third, E. B. Guest, Esq., Broadwas. Commended, Mr. C. R. Titterton, Snow Hill, Birmingham; Mr. C. Wakefield, Malvern Wells. (A very excellent class.)

White Dorkings.—First, H. Allsopp, Esq., Malvern. Second, Mr. H. Lingwood, Needham Market, Suffolk.

Spanish.—First, J. Rodbard, Esq., Aldwick Court, Bristol. Second, W. Brundrit, Esq., Runcorn. Third, Mr. J. K. Fowler, Aylesbury. Commended, Mr. C. T. Nelson, Birmingham; Miss E. Watts, Hampstead.

Cochin-China (Buff).—First, Mr. T. Stretch, Liverpool. Second, Mr. H. Loe, Appuldurcombe, Isle of Wight. Highly Commended, Miss V. Musgrove, Aughton. Commended, Mrs. Herbert, Powick; Mr. Wilson, Birmingham. (A good class.)

Cochin-China (Brown).—First, Rev. G. Hodson, Bridgewater. Second, Mr. J. Cattell, Moseley Green, Birmingham. Highly Commended, Miss V. Musgrove, Aughton.

Game (Black-breasted and other Reds).—First, E. H. France, Esq., Powick. Second, G. W. Moss, Esq., Liverpool. Highly Commended, Hon. W. Vernon, Rugeley; N. Dyer, Esq., Bredon; E. H. France, Esq., Powick. Commended, Mr. S. Matthew, Chilton Hall, Stowmarket; W. Cox, Esq., Brailsford Hall, Derby. (A very good class.)

Game (Duckwings and any other variety).—First, Hon. W. Vernon, Rugeley. Second, J. R. Rodbard, Esq., near Bristol.

Hamburghs (Gold and Silver-pencilled).—First, Mr. E. Archer, Malvern. Second, W. Bankes, Esq., Weston House, Runcorn. Highly Commended, Mr. G. Fill, Warrington; Mr. C. Adams, Windsor; Mr. J. Hollings, Horton; Mrs. J. and R. Blackburn, Preston. Commended, Mrs. Parkinson, Knapthorpe, Newark. (A very capital class.)

Hamburghs (Gold and Silver-spangled).—First, Mr. G. Haigh, Holmfirth. Second, Messrs. Bird and Beldon, Bradford. Highly Commended, Mr. W. Ludlow, Bradford. Commended, Mr. J. Dixon, Bradford.

Polands (Gold and Silver).—First, G. Adkins, Esq., Birmingham. Second, Mr. J. Dixon, Bradford. Highly Commended, Mrs. Pettat, Ashe. (A class of unusual merit.)

Polands (any other variety).—First and Second, Mr. G. S. Fox, Wellington. Highly Commended, Mr. G. Ray, Minestead. Commended, Mr. J. F. Greenall, Warrington.

Any other Breed.—Two prizes, Mr. J. Fox, Devizes (Malays). Prize, Mr. G. Botham, Slough (Brahma Pootras).

Bantams (Sebright).—First, T. H. D. Bayley, Esq., near Biggleswade. Second, Mr. G. Bradwell, Southwell. Third, Miss M. Green, Lower Cheam.

Bantams (any other variety). First and Second, Hon. W. Vernon (Game).

Turkeys.—First, Miss I. Loraine, Reading. Second, Mrs. Hill, near Ledbury. Highly Commended, Mr. Brooksbank, Rotherham; Mr. J. K. Fowler, Aylesbury.

Goslings.—First, Mr. Brooksbank, Rotherham. Second, Mr. J. K. Fowler, Aylesbury. Commended, Mrs. Parkinson, Knapthorpe, Newark.

Aylesbury Ducks.—First and Second, Mr. J. Weston, Aylesbury. Highly Commended, Mrs. Stowe, Bredon; Mr. Hedges, Aylesbury.

Rouen Ducks.—First, Mr. Fowler, Aylesbury. Second, Mr. Brooksbank, Rotherham. Highly Commended, Mr. Dixon, Bradford. Commended, Mr. Joshua, Cirencester.

Ducks (any other kind).—First, Mr. J. Dixon (Brown Call). Second, Miss S. Perkins, Sutton Colefield (Buenos Ayres).

Birmingham Pigeon Show.—The prizes are liberal, and in addition there are two pieces of plate, value £3 and £2. It takes place on the 26th instant, and the entries close on the 17th. The Secretary is Mr. H. Child, jun., Sherborne Road, Birmingham.

PIGEONS.

SECOND DIVISION.

TOY PIGEONS.

Under this head I shall include all those varieties of domestic Pigeons whose value consists in their beautiful plumage and accurate marking, feather being their only property; and if this property is lost they at once lose caste, and become nothing more than mere mongrels. They appear to owe their origin principally to the Dovehouse Pigeon, and in some cases to crosses from the fancy varieties previously described. Many of them have turned crowns, and others feathered feet; but these additions only bespeak a mixture of some of the foregoing sorts, and are rarely constant in the variety. Very little attention has been bestowed on them in this country, though a few of the varieties have been long known and are widely diffused, while others are local or of recent introduction. I have failed in an endeavour to classify them in any regular order. The German writer, Gottlob Neumeister, classes them as white Pigeons with dark markings, and dark ones with white marks; and, as colour is their only property, this would be a good method were it not that we find Pigeons reversing this arrangement, that cannot properly be separated; therefore I think it best to leave classification out of the question, or rather, enumerate all I know of in one division as Toys. Many of them are very beautiful in plumage. Most of them are good breeders, and well adapted to the country amateur who wishes to have a stock of pretty and productive Pigeons, in which he can keep up a standard of excellence without giving himself much trouble about the more particular points of the higher fancy kinds. A mere tyro can select the more correctly marked birds as stock, and appropriate the remainder to the *cuisine*.

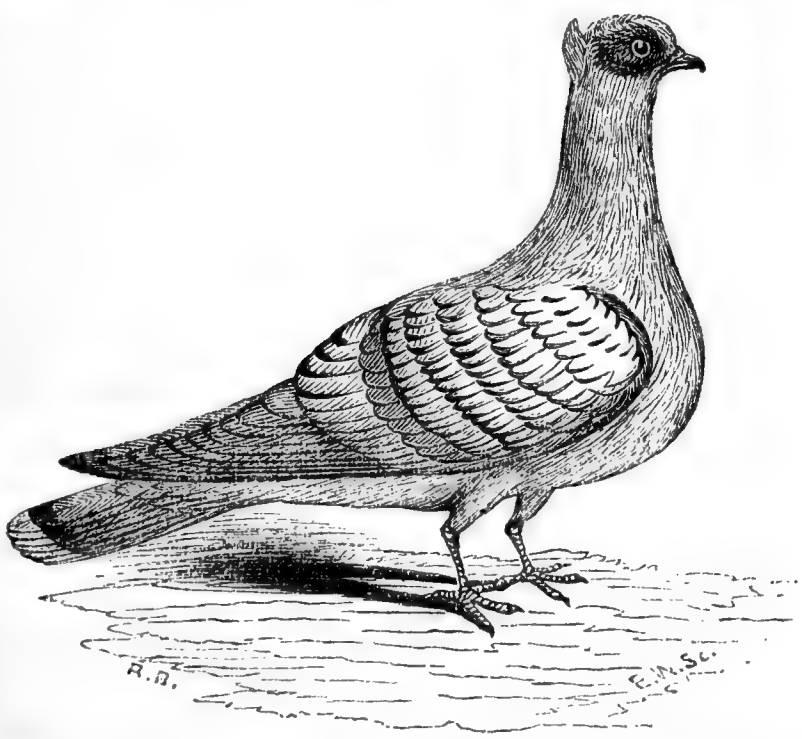
The first I shall call attention to in this division are

THE SPANGLED PIGEONS.

Variety 1.—THE SUABIAN SPANGLED PIGEON

(*Columba bracteata Sueviæ*).

French.	*German.*
Pigeon coquille Souabe.	Schwaben Tauben.



This Pigeon derives its name from the beautiful and peculiar spotting or spangling of its plumage, and from its first coming from Suabia, a large territory of Germany. In general form, habits, and manners they closely resemble a common chequered Dovehouse Pigeon, with the addition of a turned crown like a Nun Pigeon. The ground colour of the plumage is also of a dull slaty black or chequered. Their value and the great beauty consist in the curious spangling or marking of the feathers. Those on the top of the head and down the neck are all tipped with a soft creamy white, and the scapular and covert feathers of the wings have also two large spots of this soft, almost colourless shade, one on either side of the feather shaft, which cover nearly the whole of the feather vanes, and when placed side by side on the Pigeon's body present a novel and pleasing appearance, which has been compared to a beautiful enamel. The pinion feathers have a small white spot at the extremity of each, like the spots on the wings o the goldfinch; the tail is slate-coloured, barred with black; the feet clean and red; the eye gravel-coloured. They are shy, restless birds. The nestlings of this variety have the scales of the feet very dark while young, and in their first plumage they are reddish brown or brindled on those parts, which at the moult become almost white; but, as Pigeons do not change all the secondary wing feathers at the first moult, so in these a reddish brown spot remains till the ensuing summer, when they attain their full beauty.

Sub-varieties of this Pigeon are bred with the top of the head clear white, including the upper mandible, and crossing the cheeks in a line with the eyes, in which case the irides are often dark or broken in colour. Some few have also white flights. Another sub-variety is where the ground colour is red; but in these the beautiful marking is not so distinct, having a more marbled or network appearance.

I am strongly of opinion that the Suabian Pigeon is the original of all the Spangled Toys, known as Porcelains, Hyacinths, Victorias, &c.—B. P. Brent.

OUR LETTER BOX.

Dubbing Game Cocks.—Ear-lobe of Dorkings.—"I have some Game fowls hatched on the 30th of March last. Are the cocks of sufficient age, and is this a proper season for performing the operation of dubbing upon them? Is it necessary that Dorkings should have the ear-lobes white?"—Mary M'Duff.

[The Game cocks might have been dubbed before this. It should be done at once, as it is a favourable time of year. The white deaf ear in a Dorking cock is immaterial, and, so far from being necessary, it is not desirable.]

Cochins for Laying.—"In your No. 469, under the head of 'Sell your Surplus Stock,' your correspondent recommends Cochins for winter laying. Does he consider it essential to have a male bird of the same class? I have another breed of poultry, and if I procured some Cochins would rather exclude the cock bird."—A Constant Reader.

[It is quite unnecessary to have a Cochin-China cock; indeed, a Dorking would be far better, because the chickens would be much better birds for table.]

Preserving Bird-skins (*S. C.*).—Rub the fleshy side with a mixture of equal quantities of common salt and powdered alum; then dry the skins thoroughly.

Ducks (*J. V. G.*)—If they are common barn-yard Ducks sell them to the nearest higgler. None but pure-bred, first-class birds fetch high prices.

Loss of an Eye in an Exhibited Bird.—"Will you inform me whether the loss of an eye in a Hamburgh cock or Spanish cock through fighting or otherwise will disqualify him for a prize, or seriously injure his chances of success? At the late Gloucester Show Mr. Fryer's Cochin cock was defective in one of his eyes, and yet he took a third prize."—J. K. B.

[A defective eye is a serious drawback. One that plainly shows it is caused by an accident is a disadvantage, but not a disqualification. It is a disadvantage inasmuch as, if two pens were in every other respect equal, even this accidental defect would turn the scale. Much depends on the competition; but we would not send a bird with an injured eye if we had another nearly as good.]

LONDON MARKETS.—October 12th.

COVENT GARDEN.

Very trifling alterations since our last. The fruit trade is heavy in all its branches, and the northern markets being pretty well stocked, it is only in very few instances that dealers are able to clear out. *Pears* now comprise *Gansel's Bergamot, Marie Louise, Louise Bonne, Brown Beurre, Duchesse d'Angouleme, Crasanne,* and *Belle de Flanders*. *Potatoes* still come to hand much affected with the blight, which appears, both by report and by sample, to prevail almost everywhere more or less.

POULTRY.

We have a moderate supply and dull trade. We may except Partridges, of which there are still more than can find a sale. Pheasants are very plentiful.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	3s. 0d. to 3s. 6d. each.
Smaller do.	3s. 0d. to 3s. 6d. ,,	Pigeons	7d. to 8d. ,,
Chickens..	1s. 9d. to 2s. 6d. ,,	Rabbits ..	1s. 4d. to 1s. 5d. ,,
Geese	6s. 0d. to 7s. 0d. ,,	Wild ditto ..	10d. to 1s. 0d. ,,
Ducks	2s. 6d. to 3s. 0d. ,,	Pheasants ..	2s. 6d. to 3s. 3d. ,,
Hares.....	2s. 6d. to 3s. 0d. ,,	Partridges	6d. to 1s. 6d. ,,

London: Printed by Hugh Barclay, Winchester High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietors at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—October 13, 1857.

WEEKLY CALENDAR.

D M	D W	OCTOBER 20—26, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
20	Tu	Chrysanthemum Creticum.	30,181—30.143	63—39	E.	—	35 a. 6	55 a. 4	5 21	3	15 8	293
21	W	Linaria.	30.290—30.180	64—36	S.W.	—	36	53	5 49	4	15 18	294
22	Th	Stock Gilliflower.	30.308—30.282	68—42	E.	—	38	51	6 25	5	15 27	295
23	F	Physalis.	30.417—30.304	62—50	S.W.	01	40	49	7 16	6	15 35	296
24	S	Buphthalmum.	30.484—30.411	58—39	N.E.	—	42	47	8 21	7	15 43	297
25	Sun	20 Sunday after Trinity.	30.471—30.444	56—26	E.	—	43	45	9 36	8	15 49	298
26	M	Tuberose.	30.424—30.365	52—25	E.	—	45	43	10 54	9	15 56	299

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 57.2°, and 40.3°, respectively. The greatest heat, 73°, occurred on the 21st, in 1830; and the lowest cold, 20°, on the 21st, in 1842. During the period 92 days were fine, and on 104 rain fell.

PRUNING THE VINE.

Two or three and forty years since a new walled garden was made on the site of an old vineyard in Herefordshire, towards the south-east corner of the county, and within a rifle shot of the spot where a sportsman is said to have stood and sent his dogs over the hedge into Gloucestershire, where they put up a covey of partridges, at which he discharged both barrels, and a brace of them fell dead in Worcestershire. Mr. Grierson, of Ledbury, who retired from gardening in 1830, was the planner and planter of that new garden, and among other things he planted an *Esperione* Grape Vine, which he received from the late Mr. Williams, of Pitmaston, near Worcester, the best authority at that time for such things after Mr. Knight, of Downton Castle.

This Vine was the only authenticated one of that kind that I ever knew. It was also the most productive Vine I had ever seen. The border in which it did so well was never dunged. Mr. Grierson told me that he merely trenched the border, and between his experience and my own knowledge I am enabled to state that for the first five and twenty years this Vine, or rather, the Vine border, had no particle of manure, solid or liquid, and yet it was one of the most productive Vines in the country at that time. I had charge of it myself for several years, having succeeded Mr. Grierson. Mr. Moss was the gardener to Earl Somers at Eastnor Castle, Mr. Beach was with Lord Beauchamp at Maddersley Court, and Mr. Brown was gardener to Mr. and Lady Emily Foley at Stoke Edith Park, and several other good judges of the amateur class about Worcester, Gloucester, and Cheltenham knew the Vine very well, and they all acknowledged its superiority. Some of the gardeners were helped year after year with contributions from it to mix with their own hothouse Grapes for the dessert, for the highest of our aristocracy too, but it was never detected to be an outdoor Grape only. I have known it to produce five dozen bunches averaging one pound and a half each, and from four to five hundred bunches of less weight. In 1835 I sold the crop of this Vine for thirty shillings to the butler of Col. Drummond, then at Underdown, near Ledbury, and now of the Boyce, near Dymock, and he told me afterwards that, after stripping them of the stalks, and casting out wasp-eaten ones and all that he could not mash for wine, he weighed them, and found they cost him three farthings the pound. He can tell the same tale if he is alive. I gave away shoots, layers, eyes, and "coilers" of this Vine freely, and if any one can give me now a few eyes of this Vine, quite authenticated, I shall feel very much obliged. My reason for the request is, that there is not a man alive who can, or ever could, tell the difference between the fruit of the true *Esperione* and that of the *Black Hamburgh*, and from knowing there are plenty Esperiones in England which are not true, my own experimental Vine being one of the latter, a fact which I only discovered since I mentioned the experiment about pruning the Vine.

There is one way, and only one, by which the *Esperione* may be known from the *Black Hamburgh*. It ripens out of doors five or six weeks before the *Black Hamburgh*. It will also ripen to the north of Balmoral against a south wall in a season like this. In 1826 it ripened to my own knowledge at Tochabers, near Gordon Castle, in Elgin, and in Forres, in the same shire of Moray, and at Inverness.

My Vine here has had all the advantages of a London climate, and my own care into the bargain, but no dung in any shape from the beginning, and still a first-rate gardener in Oxfordshire had his *Esperione* ripe five weeks before mine this season, and what is more to the purpose, he has thirty or forty examples of the very experiment which I have been trying since 1852. He, also, and his employer offered to send me branches of the Vine with fruit on, carriage free to London, for me to exhibit in corroboration of the experiment, and he was so good as to say that I may give his name and authority in the summing up.

Another gardener in the west of England, and one who is allowed to be among the best gardeners in the kingdom, told me that my No. 4 bunch, that with the longest shoot, ought to be the worst of the lot. Another gardener of equal celebrity, and author of a book on the Vine, told me that this very number ought to be the best, all but one point, which he named. Some tell me No. 2 should be the best, but the preponderance is in favour of No. 3. Another gardener in the west has been experimenting for some years on the exact experiment which I have tried, so as to "account for what he believed to be his own fault." I wish this one would allow me to give his name also. Mr. Errington is for No. 3 to be the best. Mr. Fish and Mr. Robson are both for No. 2 generally, and for No. 3 under particular circumstances, but they did not tell me so—I make it out from their writing. I can tell which of the bunches would be thought the best by any one who has written on the Vine for the last hundred years, but I wished for co-operation in a "family manner," and so named a few first-rate gardeners, whose opinions I promised to keep private if they wished. Most of them are for No. 3.

Now that I am in possession of the facts from others which I wish to clear up by the experiment, and all being settled but the flavour of this or that bunch, and the cause why one bunch should be of a different flavour from the bunch before or behind it, I need not take the spurs along with the bunches to the fruit meeting of the Horticultural Society after declining those from Oxfordshire. All that I shall have to ascertain from the Judges there is, if there is any difference of flavour in my four or five bunches to correspond with that difference which is stated by my correspondents. From a long experience in "this way" I am persuaded that no man can be a thoroughly independent judge of his own production, therefore I shall not even taste a berry of these bunches till they are judged in Willis's Rooms; but I can see already that a very important point will have to be experimented

upon and discussed before the question of theory against practice, or practice against theory, can be finally settled.

The most singular thing I ever read or heard of about Vines is a statement by Mr. Fish two or three weeks since. It is to the effect that he grafted or inarched—for I have not got that number by me just now—a Muscat Vine on a common or non-Muscat-flavoured kind, and that the common Vine made a shoot below the Muscat scion, and that this common-kind shoot produced common Grapes which were of a Muscat flavour if I understood him. Here, then, is a great mystery, which may easily be turned to good account, as it would seem that a graft of a Muscat Grape is capable of giving the Muscat flavour to the fruit of branches from the stock growing near it, or say under particular circumstances. Mr. Fish would do well to give us a chapter under this head, and give us his own opinion on the point unreservedly. A first-rate Grape grower told me lately that he was going to turn a new leaf, and that he would keep "turning" until he produced a bunch heavier or as heavy as Speechly's celebrated bunch at Welbeck, which bunch weighed nineteen pounds, and was sent somewhere on a pole carried by two men on their shoulders. My friend will send his bunch by two carriers in a similar way to London, so you see it is time for us old practitioners to brush up and square practice with theory, or else round off the corners of theory so as to fit it to our own practice. The rising generation cannot help benefiting by this move.

The productive *Esperione* aforesaid was managed for many years very nearly to the way which was given by Mr. Hoare in his first treatise on the Vine—the best we have on outdoor Grapes. Mr. Hoare was a Surbiton author, for it was here he wrote his treatise, and if he had stopped at the end of that treatise we should be quoting him as an authority; but he took wild notions and baseless theories on the Vine, which overturned his authority altogether. The Vine in question was planted in strong adhesive loam twenty inches deep, over a porous, dark red, "brasby" stone, the out-crossing of a fine natural rock, about twenty feet from the angle made by the east wall of the garden with that on the north side, or what is generally called the "south wall." It was first "taken up" with two shoots, and these two were trained next year right and left along the bottom of the wall, the eyes being destroyed on the under side of these branches, and those on the upper side were reduced to nine inches the one from the other, and all the shoots from these were trained up perpendicularly to the top of the wall. At pruning time half the shoots on each side were cut down alternately to one bud from the parent horizontal shoot, and the other half of them were cut to five feet, or to half the height of the wall. These carried fruit next summer, and the cut down ones made shoots which reached the top of the wall, and the top eye of the five-feet shoots was allowed to make a shoot to the top of the wall also. All the shoots stood at, or nearly, nine inches apart, but the fruiting shoots were just double that distance apart. At the next pruning the long shoots from the bottom with no fruit on were cut back to five feet, and the bottom half of the five-feet shoots which had carried fruit that season were disbudded, the top half only being allowed to fruit; so that every alternate shoot fruited against the lower half of the wall, and every other shoot against the upper half. The two end shoots were brought down to the horizontal every winter to extend the tree, and they were cut according to their strength to get uprights from them. The one on the right could only extend twenty feet, owing to the aspect turning at the angle; but the left-hand shoot reached forty feet, and that made the Vine just sixty feet long and ten feet high. The spurs were stopped one, two, and three inches before the bunch; no eye was allowed to have more than one bunch, and all the bunches were well thinned.

I know one other Vine which is thus managed now and does well; and I saw a long low wall of young Vines at Mr. Sturgeon's which were to be treated in the same way; but as they were many they would be more strictly on Hoare's system. If Mr. Sturgeon, jun., sees this I hope he will give us an account of his Vines and the crop of this season, and above all his novel way of propagating the Vine for the open wall, a way which I believe was never in print. D. Beaton.

SHRUBLAND PARK.

(*Continued from page* 20.)

All this while we have kept our position about the mansion end of the central walk of the balcony garden; but now, lest our feet get cramped or fastened to the gravel, Mr. Foggo leads us onward to the north end of the garden, turns abruptly to the right, where the north end of the mansion is fringed with trees, foregrounded with fine specimens of Laurestinus, and enters on a long broad walk called Brownlow terrace, with a table lawn and a magnificent row of Spanish Chestnuts covered with fruit on the right hand, several of the trunks of which I should judge were fully thirty feet in circumference near the ground, and showing what time and soil might do at Shrubland in the production of noble specimens of timber. On the left the ground undulates, curves, and deepens into the recesses of a valley, showing now and then a yard or two of walk through the trees with which the banks are covered, picturesquely among which fine Thorns are again conspicuous.

Returning once more to the balcony garden, I proposed looking at it from the terrace; but Mr. Foggo said that by and by we would do so, and also ascend the tower, where the view would be more extended. Afterwards there was so much to see and talk about that we forgot all about the tower; but presently we pass through the temple in the balustrading, and Mr. Foggo's reason was at once apparent.

The worthy parish schoolmaster who, among other things, helped to give me a taste for reading, when describing some of the features of a new book would stop abruptly by saying, "I must not anticipate." Mr. Foggo would not thus weaken a first impression, and had I acted on the same principle the reader who accompanies me would not have known that the mansion and its balcony garden were placed on the verge of a precipitous bank until he passed through the magic threshold of the temple; and what a sight, and what a contrast to what we have been looking at!

Right before you is a magnificent wide stone staircase of about 170 steps, divided into various flights or rests, and these rests wider than the steps, and furnished with vases of scarlet Geraniums. On each side of the staircase the precipitous bank extends 400 or 500 yards, thinly scattered with deciduous trees, but densely clothed with an underground of Box, &c. Close to the sides of the stone staircase is, or will be, a Box verge from top to bottom six feet wide, cut smooth to resemble an edging of turf. At the bottom of the staircase, and right along the bottom of the bank either way, is a wide grass avenue or terrace, partaking of the line of the bank.

In a direct line with the staircase is a beautiful circular basin some forty feet in diameter, with a massive stone kerb, and a jet in its centre, far enough from this grass terrace to permit of a circular band of turf some sixty feet in width, and a broad circular walk besides, all round it. Passing your eye over the centre of this fountain a broad glade takes you up to a beautiful colonnaded temple

or Italian loggia, in the centre of the stone balustrading which bounds this low, level garden. Just as in the case of the centre walk in the balcony garden this avenue glade divides this garden into two sides right and left, both being exactly alike. Glancing over the ground more leisurely you see the main features are these:—A large artistic bed on each side of the fountain; a broad turf avenue crossing the central one, embellished with long beds of yellow Calceolarias; then a sunk parterre, from which this has been called the *panel* gardens, with a broad avenue beyond, next the balustrades, decorated with similar long beds of scarlet and pink Geraniums; whilst the ends are flanked with Petunias and Hollyhocks.

Descending the steps, and leaving a remark on the panel garden until we return, we move to the right, and pass one of the large beds at the side of the fountain with artistic scroll work at the ends, surrounded with an edging of Yew, kept square, some fourteen inches in height, and three or four inches in breadth. These beds are filled with Geraniums on the shading system. The principle seems to be to begin with a white Geranium at the outside, as *Hendersonii*, called here *White Nosegay*; then a light pink or rose, and deepening the colour until scarlet was reached in the centre. The bed was very full, as every bed I saw was; but the heavy rains had made havoc with the colours.

Shortly after passing this Yew bed, which has its counterpart on the opposite side of the fountain, the grass terrace becomes an avenue, turning suddenly more eastward, coming thus in line, as far as I recollect, with the Calceolaria glade; and here a new style is adopted, the bottom of the bank finishing with a hedge of Fuchsias, and the opposite side being composed of long beds of Savin kept close and low, alternating with fine plants of upright Cypress and *Arbor-vitæ*. When you imagine you have got to the end you turn abruptly a few yards to the right, and directly before you is the same avenue continued in a similar direction, and again a different system of management. On the right is the *block* bank, consisting of roots and boulders, shrubs and strong-growing, rough herbaceous plants, and especially all having remarkable foliage, among which we noticed Ferns, Gardener's Garters, bunches of Fennel, and even huge leaves of Rhubarb, &c. On the opposite side is a fine ribbon border more than 200 feet in length, and backed by a wall of Laurels, but the border almost level from side to side, thus contrasting greatly, independently of its colours, with the steep bank opposite. The planting, so far as I recollect, was as follows:—Back row next the Laurels a tall, bronzy orange Calceolaria; next Ageratum; next white Petunia; next scarlet Geranium, such as *Punch*, followed by white Petunia, Ageratum, and bordered next the grass with a fine row of *Prince of Orange* Calceolaria. Mr. Foggo informed me that such arrangements are mostly altered every year, and that last season the plants at the back were higher and sloping down to the front, and I should have liked that better. I have also a prejudice that when there is a centre and two sides to the ribbon the centre should be the highest, and the border fall to, and be seen from both sides. Striking as the present arrangement is I fear I should have been Goth enough, if the ribbon border remained, to have removed part of the block bank farther up the hill, and had a sloping ribbon border on both sides of the avenue, though, in thus securing something like uniformity, I should deprive myself of the charms of strong contrasts, one of the features of the place.

Returning towards the panel garden we are suddenly introduced to a charming artistic scrolled parterre, called the French garden, surrounded by a wall of Laurels, and ornamented with statuary, &c. I have but a faint remembrance of the plan of this garden on a ground-work of gravel, and edged with Box, and my remembrance of the planting is quite as indistinct; but one or two reasons suggested themselves as the cause of the charm that at once rivets the visitor in admiration. The beds appropriated to flowers, however diversified in shape, are not greatly dissimilar in size, and are portioned out pretty equally over the whole parterre; the finer lines and scroll work, instead of being planted, are filled between the Box with silver sand. There is, therefore, no blaze of warm colour in one spot, with meagre thin lines of cold colours in another.

Leaving this we shortly stand and look down on one of the panel parterres, sunk perhaps fifteen or eighteen inches below the surrounding glades, placed on gravel, with Box edging to the beds and grass round, and a sloping bank of turf to the level glades above. The remark I hinted at making is just this—that it is difficult to see through the design and the mode of planting when looked down upon close at hand as a separate picture, though it seems perspicuous enough when the panel becomes, as it were, the artistic centre to surrounding masses of bright warm colours on the top of the glades, as seen from a little distance, and especially from the staircase and the temple at its summit. This will appear more clearly if you can conceive of six largish beds forming the centre of the panel. The centre bed we will suppose to be an obtuse oval, placed on the palm of your hand just behind the fingers; the fingers spread out, and more than doubled in width at the rounded points, will represent the other five beds. The centre bed is filled with yellow Calceolarias; the forefinger with *Punch* Geranium; the two next fingers, one on each side, with *Flower of the Day;* and the two outsides with *Lady Middleton*, a fine bright rose, identical, I think, with what is called *Trentham Rose* in this neighbourhood. From this centre long, narrow, artistic scroll beds radiate on each side, but going farthest at the side farthest from the loggia, and these are filled with lilac and purple Verbenas. Looking at it, then, individually, it struck me that the centre was too radiant and massive for the wings. Considered as part of one whole it became very different.

On the wide terrace glade in front of these panels (for both are alike) are long massive beds of yellow Calceolarias, edged with pink Verbenas, and on the terrace glades behind them, next the balustrading, are massive long beds in rows of scarlet Geraniums, and in the centre of that row four beds of salmon *Compactum Nosegay*, while on each side of the panel gardens are two long beds of white and two of purple Petunias, backed as it were with two large beds of mixed Hollyhocks. Very likely even now I have failed to catch the prominent idea of the great *artistes* who formed this beautiful garden; but in this age of imitation the remark ventured upon may lead to the reflection that what is extremely beautiful in one place may be very commonplace in another, when not accompanied with similar accessories and surroundings.

Now, for the first time, we get up to the loggia and look over the balustrading; and again what a contrast! Here most of the stonework had been prepared for these gardens, and pieces and boulders remain pretty much as the masons had left them. Taste and genius are just as perceptible as in the rich panel garden. Ever and anon we came upon holes and pools filled with water, and supplied with Nymphæas, Nuphars, Alismas, Irises, &c., whilst we thread our way among bold jutting banks, supplied with Berberries, Furze, and other shrubs, lightened up with the Pampas and other showy Grasses, fine-foliaged plants, as *Arundo donax*, to which might be added groups of Maize, or Indian Corn. I think I saw some plants of Teasel, about which Mr. Beaton gave us an article some time ago; at any rate, such plants, Eryngiums, variegated Thistles, &c., would

here find a home. There were great masses in full bloom of the purple *Impatiens glandulifera*, which has here been fully acclimatised, sowing itself every year, and fine masses of the autumn Asters and the Golden Rod (*Solidago*), &c.

Anon, we get back to the green terrace, but this time south of the staircase and Yew-shaded bed, and find that the Fuchsia hedges and Savin beds correspond with the other side. There is no break, however, in the line as in the block bank, but the farther end is devoted to a bank of Dahlias, and opposite to them are different styles of flower gardening. In fact, the whole space inclosed between about a quarter of a mile of this wide grass terrace and the side of the panel gardens which we have just left, is devoted to a series of different gardens, which it would take many hours fully to examine and a pamphlet to describe. I must content myself with giving you a glance, as that was pretty well all I could manage for myself.

Instead, then, of going along the terrace we cross diagonally an undulated lawn, passing under the branches of a fine old Oak, not lofty, but the circle of its head about eighty feet in diameter, and onwards to a Swiss-Italian summer-house, built chiefly with unpeeled fir poles, colonnaded at both ends with similar fir poles, covered with Virginian Creeper, Clematis, wild Roses, &c. It is graced with flower baskets too; but these are rough unpeeled willow. A narrow flower border it has, with wild flowers and Nasturtiums crawling over it, and edged again with rough young trees lying longitudinally. There are large wide arches at either end connecting the whole with other parts, and these are each formed by four unbarked trees fixed perpendicularly in the ground, and two similar ones laid horizontally across their tops, thus forming a double flat archway, and over these poles clambered and festooned Gourds and Pumpkins, with plenty of fruit hanging from them, presenting altogether a fine combination of simplicity and suitability.

A little eastwards of this is the rosary, open, I think, on that side of the lawn, but on the farther side bounded by a walk doubly arched for climbing Roses, each arch that crosses the walk being joined by one that makes a similar arch on each side of the walk longitudinally.

This brings us close to the conservatory ornamental wall, a very striking feature, as giving the advantage of fine conservatory plants without any glass being seen in summer. The wall is divided into separate equal spaces by stone pilasters, and each of these spaces is intended for a single plant. The side of the wall on which we are now standing faces the south-west, the opposite side the south-east. The border in front of it is about four feet wide, bounded by a stone plinth. Observing some round knobs on the top of the plinth at regular distances Mr. Foggo pulled one up, and it was at once seen to be a wooden plug temporarily filling one of the sockets that receive the upright studs that support the wall plate and sashes, there being also upright glass in front. All this is removed as soon as it is deemed safe in the spring, and the principal thing to be attended to is the securing plants that bloom best in summer. The wall is hollow, and heated by hot-water pipes. The plants between the panels were such as these:—Citrons, Magnolia, *Cassia corymbosa*, still young; *Cloth of Gold* Rose, *Plumbago Capensis*, *Rose Malmaison*, *Begonia fuchsioides*, *Tacsonia pinnatistipula*, *Passiflora cærulea*, &c.; fine plants of a seedling Acacia in the way of *juniperina*, but not in bloom; and great masses of Lophospermum, Maurandya, &c., as temporary plants. But the two great lions on the wall were a *Buddlea Lindleyana*, filling the whole of its allotted space, some ten or twelve square feet, with a dense mass of its violet purple flowers; the other was a *Mandevilla suaveolens* in the highest health and vigour, and loaded in every part with its wreaths of white blossom. Among other nice little things in the border were fine specimens of China Asters that would have ranked among the first at the Crystal Palace.

On the south-east side of the wall were such plants as *Fuchsia coralina*, and Fuchsia *Duchess of Lancaster*, *Lardizabala biternata*, *Abelia floribunda*, *Dolichos lignosus*, *Ceanothus dentatus*, *C. azureus* (the best of the group), *Erythrina crista-galli*, &c.

The border next the stone kerb was edged with *Golden Chain*, backed by blue *Lobelia speciosa*, with patches of *L. ramosa*, scarlet Lobelia *St. Clair*, and other things dotted over the border. It was chiefly in these borders, I believe, that Mr. Beaton proved and experimented so much on bulbs as now to be the best authority on their affinities and treatment.

I forgot to mention that some fifteen yards or so from the south-west side of this wall is a group of four raised angular beds, two large outside and two smaller in the centre, the sides being formed of various materials. The larger beds were centred with Dahlias, ringed with *Salvia fulgens*, and I forget what next; but I allude to them for chronicling that round the outside of both was a massive wreath of the white thorn-scented *Clematis flammula*.

I have also forgotten to state that near the Swiss summer-house is a large roundish bed, divided into a group by paths of Ivy, a new idea so far as I am aware.

In front, or close to the south-east side of this conservatory wall, is the fountain garden. Two gravel walks passing each other at right angles divide the circular outline into four equal divisions, the fountain being placed as an elevated basin in the central point of junction. After a circle of gravel the first circle is planted with *Fuchsia globosa*; another larger circle is occupied with the *Mountain of Light* Geranium, with the flowers picked off to give a white ground. Each of these four divisions is now divided into seven rays, going from this white centre to the circumference, and are thus arranged:—1st row white. 2. Purple. 3. Pink. 4. Yellow. 5. Blue. 6. Scarlet. 7. White. Now, if some of us common gardeners had twenty-eight of these long ray beds to fill, and managed to get them all uniform as to height and effectiveness, we should be apt to look as satisfied as some orators do when they imagine they have uttered something very telling and clever; but that accomplished would not involve a tithe of the forethought and observation requisite for carrying out thoroughly the ideas seemingly contemplated in this fountain garden. Not only is there a division of grass between each ray longitudinally, but each ray is again divided by concentric grass paths into three beds, so far as I recollect, and for the purpose of carrying out two ideas. The first, that each ray should be somewhat shaded, the lightest tint being next the *Mountain of Light*, the deepest at the circumference bed. The second idea, that the inner beds should be lowest, and the same in height all round, the second higher, and ditto, and the circumference bed the highest of all, but equal all round. Mr. Foggo stated that some of his beds were too high for their neighbours, and for the grass divisions between them, which would be remedied next year. The garden was very interesting, and suggestive of many thoughts, which for the present must remain thoughts; but, beautiful as it is, I have no doubt it will be more beautiful and symmetrical every year as the notes and memoranda of the planter increase.

One of the two dividing walks of this fountain garden continues in a direct line southwards, guarded on each side by fine columns of Cypresses until you come to the hanging-basket garden, which may be described as a large airy arbour, with a huge box suspended in the centre, filled with scarlet Geraniums, and the beds at

the bottom filled with *Quercifoil, Sweet-scented,* and the most continuous bloomers of the fancy Geraniums.

Passing this the same walk leads onward, guarded now on the sides by columns of Irish Yew, until you come to the centre, whence radiate eight ray walks, this walk being one of them as far as I recollect. The centre bed is, I think, of an octagon shape, centred with a low antique bush of Yew, bordered with the Variegated Mint. At each angle opposite the centre of each walk is a large vase of scarlet Geraniums raised on a pedestal, and between the walks on the opposite side of the circle are fine specimens chiefly of Myrtles and double Pomegranates in boxes. The walks are chiefly bounded by hedges of Laurel; one is bordered with columns of Yew cut into fantastic, grotesque shapes; one leads to the puzzle garden; one opens a fine view here; another leads to a particular object there. Each has its appropriate bordering, among which I was glad to recognise fine lines of the *Marvel of Peru.*

Getting back to the eastward of the hanging-basket garden we find ourselves in a large square, graced with fine upright Cypresses, &c., and relieved and decorated with large standard and pyramidal specimens of scarlet Geraniums, &c. We rise some steps and get to the Box garden, the tracing being on red sand, and here a few only of the central beds are planted, as planting the scrolls and dots would have destroyed the uniqueness of the effect. A step higher and we are again on the green terrace in front of the bank. In passing, a man was cleaning and raking the sand in the Box garden, and Mr. Foggo said to him, "Leave no heaps." Young gardener, have you ever reflected on the neatness and prudent economy combined when at such work, unless in some extreme case, you "never make a heap," and therefore never require to fid-fad about its bottom afterwards?

The Dahlia bank is very showy. Front row next the green terrace, *Eschscholtzia Californica;* second row, purple *Zelinda* Dahlia; third row, scarlet *Zelinda* or *Crystal Palace Scarlet,* backed by rows of white, yellow, purple, &c.

Beyond the end of this border and near the end of the terrace, where a fine gate opens into the park, are two little gardens—one on the west side, a panel slightly sunk, devoted to Verbenas, and one on the bank side, a garden composed of many little spots where many things are tried. Here we found the scarlet variegated *Alma* and many other things; but the most *bewitching* little bed of the lot was one planted with the now fashionable white *Cerastium,* dotted all over thinly with a scarlet Verbena, in the way of, but darker than, *Barkerii.*

Partaking somewhat of the circular form of the bank at the bottom of the staircase the broad avenues pass each other something like a St. Andrew's cross. Thus, when you stand at the end of this grass terrace with the gate at your back, you look upon an avenue about a mile in length, with *the large fountain in the centre of the line;* but nearly a half of this avenue is beyond the gardens, running down into the valley, and climbing the face of the hill by a gradual ascent until it reaches an architectural termination, with no other seen boundary than the horizon. The sides of this avenue beyond the gardens are planted with *Arbor-vitæ,* and I think Lombardy Poplars behind, to sustain the Italian character of the grounds. The architectural termination is a stone balustrade on each side, just keeping, as it were, out of the wood, with a wide opening in the centre, which may be a platform, a walk, or a road for anything you know; and, as the grass avenue does not rise so high as this platform, there is a flight of massive stone steps to reach it. I am not in the secret as to the objects of this arrangement; no doubt they were sufficient, and the very mystery and uncertainty in which the termination is shrouded would to many be a great attraction, whilst others, again, might wish that these stone steps should *not be seen,* or *be seen* to lead to something more definite, as a lofty archway or temple between the balustrades, through which the horizon could be seen as now, presenting the hopes of a resting-place for those troubled with fatigue and inquisitiveness, and conjuring up to the imagination another series of terraces and fountains on the other side of the hill.

Near this end of the bank, snugly embowered, is situated the Swiss cottage, and close to it, on the tail end of the bank, a large fernery has just been made; and here, again, genius is seen in the forming of the grotesque and romantic. Huge boles of trees hollow in the middle and split up the centre are lying and piled in every imaginable position, putting one in mind of the days of old, when the giants are said to have hurled Ossa on Pelion as easily as we should throw one snowball on the top of another. Where such numbers of such hollow trees could be got seemed a mystery. The Ferns were planted in and around them. A rustic cave-like summer-house had been formed with such trees and roots on about the highest point. In front of it was a little pond, and near it were some of the rarest specimens congregated. If found too shady all that will be required will be to lop and cut away a little. Beautiful as Ferns are, they, to my eye, are rather dismal by themselves. I have no doubt but this will be lightened up with variegated Ivies, Periwinkles, &c.

This fernery is close to the park paling boundary; but so planted out is it by Laurels that you have no idea of anything of the sort. In fact, from the time you enter until you get back again to the front of the house, you have no means of knowing where the pleasure grounds and park respectively meet, unless at the large fine gate at the end of the grass terrace.

Emerging from this fernery we get upon the east side of the bank on a walk that skirts the conservatory lawn, and from a Swiss summer-house on this walk and various other points obtain fine peeps of the rising ground on the other side of the valley; but at length we reach the top of the walk, pass by the end of the balcony garden, the ribboned circles, the front of the conservatory, and get out at the gate at which we entered.

And now, courteous reader, as we have gladly accepted the kind invitation of our conductor to rest and refresh ourselves in his comfortable parlour, we shall leave you to do the same elsewhere, hoping that, if you have been at all gratified with our gossipings, we shall have the pleasure of your company in glancing at some of the things I noticed in the great workshop, where are manufactured not only the materials for all this embellishment, but the more necessary adjuncts for imparting richness and fulness to a gentleman's table.

R. Fish.

Errata.—Window Gardening.—Page 24, first column, second paragraph, fifteenth line of that paragraph, *repot* should be *repeat.* Shrubland Park.—Page 18, first column, second line of second paragraph, Ipswich *to* Claydon, *to* should be *or.* Second column, first word in twentieth line from top, *on* should be *or.* Second column, sixth line from the bottom, "the front is glass, and *now,*" &c., should be "the front is glass, and *new.*"

TREES.

Tree Slaughter.—If anything could provoke a saint to wrath it is the frequent destruction of fine trees on the most frivolous pretences. Here a majestic Elm is sacrificed because the dripping from its boughs moistens cheap shingles on some adjoining house, and compels a more speedy repair; there a barn is to be removed, and all the trees which stand in the line of its direct course must give way. A couple of rowdies, returning on a dark night from a winter revel, are upset against an Oak which projects into the road a foot or two; straightway the sapient selectmen of the town debate the case, and solemnly order that the tree, which has stood there since the memory of man, shall be brought low,

rather than a dollar shall be spent to widen the road at that point. Here, again, unfortunately, a new street must be laid out in a straight line to satisfy the precise genius of modern engineering; and the great tree that stops the way must disappear, root and branch, rather than a hair's breadth be changed in the beautiful lithograph of attractive house-lots. The first care of a lucky broker, who has bought at a bargain some fine old estate, is to thin out and trim the trees and shrubbery on the model of his own ledger, saving only the specimens which he can coax into regular rows, or inspect with half-shut eye. We know more than one instance where a quarrel between neighbours has led to the destruction of noble trees, simply because one thought that he might annoy the other by depriving him of his shade; and there are not a few occasions to admire that thrift which cuts down an orchard because birds get all the cherries, or boys and Irishmen steal all the apples.

Provocation of this sort, which constantly vexes one in a large country town, suggests the question, whether he who removes a public ornament and good, even from his own land, is not as much a subject for the law as he who creates a public nuisance. The destruction of half a dozen fine shade trees may be as great an injury to a neighbourhood as the erection of an oil boiler or a fish-house. Yet the one has an impunity not allowed to the other. Many statutes are passed with much less moral justification than a statute to prevent the arbitrary cutting down of valuable trees. When estates are sold there ought to be in the deeds a restraining clause —an entail for the trees which border the road, if not for those which surround the house. The tastes of the city exchange ought not to have unchecked license in the groves of the suburbs. At any rate, a legislative "resolution" on this subject would be quite as timely and sensible as most of the resolutions which are passed by legislative bodies.

Sentiment of Tree Planting.—Any father will recognise it as a beautiful and easy way of commemorating the birth of children in his household. The members of a college class, revisiting the place of their early instruction, will see in the tree which they left there on their parting day a permanent memorial of their former union. Travel strengthens the force of this reason. When we discover how wide, and high, and sacred are the memories which are kept on earth by means of these signs; when we have visited the churchyard at Stoke, with its "rugged Yew trees," where Gray lies buried, or the "Burnham Beeches," where he used to ramble; when we have looked upon the Oak at Penshurst which marks the birth-time of Philip Sidney, or that huge tree at Grafton, where, nearly four centuries ago, Edward Plantagenet first met the Lady Elizabeth Woodville; when we have rested under "Milton's Mulberry" in Christ Church Garden, and remembered Warton under the "Avon Willows;" when we have walked in that square of the silent Certosa where the spray of the fountain still moistens the great Cypress which Michael Angelo planted, or have lingered by that blasted trunk beneath whose shelter, when its boughs were green, poor Tasso was wont to look down over the Eternal City, and to dream and sigh his life away; when we have found everywhere the most famous sites and events in the history of war, and genius, and religion, from the massacre at Clisson to the victory at Marathon—from the spot in Cambridge where Washington met the American army, to the spot in Bristol where Augustine held conference with the English bishops; or that most ancient place of meeting on the plains of Mamre which holds the tradition of Abraham and the angels—scenes of faith, and valour, and romance, fixed and perpetuated by these lords of the forest—we come to understand better this sentimental reason, which some esteem so lightly.

This sort of association, indeed, cannot generally be planned and provided for. The best associations come by chance, and no man can say, when he plants a tree, that it is destined hereafter to be joined in memory with any great thing. Yet many a man, in his old age, feels a deeper attachment to the home where he has always dwelt, because it is overhung by the boughs of the tree which, as a sapling, he put there in his boyhood. The house has gone to decay, it may be, and he must build a better; but the trees make the place so dear that he cannot let it pass from his possession, and his children will keep it because their father's trees are there.

Profit in Trees.—Except in the rich gardens close around cities there is no land so profitable, no land which pays so good an interest on its cost, as *woodland*. In some parts of Massachusetts a man who owns a hundred acres of pasture is little better than a bankrupt, while he who owns a hundred acres of forest is independently rich. The first must pay taxes on what does not pay for its culture, while the second can cut off enough to meet the annual interest, yet have more at the end than at the beginning. We once heard an eccentric genius maintain that his woodland, about fifty acres in all, though he had bought it, and paid for it a good round sum some thirty years before, had in reality never cost him a cent; "for I have cut off wood enough to pay not only the original outlay, but to meet all the worth of the money at compound interest, and to cover all charges; and now I have more wood than I found there at the beginning." It was a rational logic enough.

We are confident that, at the present prices of timber and fuel, the profits of woodland to our New England farmers are at least three times as great as the profits of the land which they cultivate with so much labour. The experiment of planting Locusts on Long Island has proved that lands before considered valueless may become the most precious possession of their owners. Thousands of acres now lying waste might, with a very small outlay, be made to yield very great returns. The length of time that must pass before the profit of these artificial forests can be tested undoubtedly deters many from planting them. Very few men like to make an investment of which the returns begin to come only after twenty or thirty years; but every man knows that whatever raises the value of his land is as sure profit as that which actually puts cash into his pocket. There seems to be less promise in an acre of young Locusts than in an acre of thriving Turnips; but in twenty years the value of all the annual Turnips will not begin to reach the value of the trees. The longer the planter is willing to wait, the greater will be his ratio of gain. The early age at which trees are felled precludes a fair test of the superior profit of this kind of planting over corn planting. Patience is a cardinal virtue when we are dealing with forests.

There should be on every farm of reasonable size an annual planting, as well as an annual cutting of trees. We shall not undertake to say what kinds of wood will yield the speediest and the largest profit, whether the Oak, the Pine, the Cedar, or the Locust. Any of these will richly repay the labour and the cost required for their growing. According to the quality of the soil will be the fitness of the tree. The profit of tree planting, however, cannot be measured by direct pecuniary returns. It affects economy in many ways, aside from the mere growth of the wood. The Willow, for instance, a tree of comparatively little commercial value, is of inestimable worth in preserving the land along the banks of streams from the encroachment of the current. Few persons who have not watched the changes of the banks at the bends of rivers can have an idea of the damage which is done yearly to our land from this single cause. The landslides which seem so curious along the Nile, at Manfaloot and Osioot, may be observed, on a smaller scale, on the Connecticut and the Charles. A double row of Osiers is almost a sure protection against this damage. Colonel Colt has planted, it is said, no less than fourteen acres of these trees along the banks of the Connecticut, and has proved himself, in that labour, a benefactor alike to the farmers and the basket-makers. The Willow in such a situation has a rapid growth, and in a few years a tame and dull stream may be made romantic by the shade which these hedges throw. We know of one river, at least, in New England which flows through a flat and uninteresting country, yet preserves the fame of beauty, mainly from the foliage along its margin.

Most of our annual crops impoverish the soil. After two or three years of harvest the grain-field must be left fallow for a season, or be turned to other uses. But trees constantly improve the soil, giving to it more than they draw from it; and they improve not only the soil on which they stand, but the soil all around them. We need not insist upon the annual deposit of decaying leaves or broken boughs, which rot upon the ground, and so infuse into it the elements of new life, but may rather dwell upon one or two of the incidental results which are less considered—the connection of trees with the proper distribution of snow,

and their influence in preventing too rapid evaporation. These topics are of the highest importance.

No Water-power without Trees.—In an open country the absolute quantity of water which the rivers discharge is not only less than in a wooded country, but the flow is incomparably more irregular and unequal. This week the stream may be a foaming torrent, forbidding all passage; next week it will be only a sluggish pool, which scarcely wets your horse's fetlocks. Since our Western lands have been cleared the alternations in the "stage" of water in the rivers have been much more marked and violent.

The fact has been vexatiously brought home to our practical men by the constant hinderance of the mill-streams from freshets and droughts. Many water privileges, which half a century ago were valuable and steady, have now become nearly worthless. The dam which was conveniently put up to saw an adjoining forest into profitable plank, now that its excellent work is done, will drive the saw in the summer no longer. The good riparian mill-owners of one of the ponds in the vicinity of Boston remarked with amazement, some ten years ago, that the supply of water seemed to be failing them, and that the feeding stream had utterly dried up—a thing never known by the oldest inhabitant. Within a few years the stream has regained its volume, and now flows full, even in the heats of summer. The secret of these changes was, that the water first disappeared on account of the cutting away of the forests about its source, a few miles distant, and returned when the young wood had grown there. Not a few of our larger factories have been compelled to introduce steam power to supply a deficiency in the volume of water, which, a few years ago, was not troublesome. Indeed, the word "inexhaustible" can now hardly be used of any water privilege in New England. We do not believe, though some high authorities maintain this view, that the cutting away of forests diminishes the quantity of rain or snow; but we only contend that it deprives the moisture of its beneficent effect upon the earth, by causing it to be too rapidly abstracted, and producing the pernicious alternations of freshet and drought, which are as fatal to the health of the soil as to the health of the men who own the soil.

Trees necessary to Health.—Medical statistics give a verdict in favour of woodland as against cleared land. The wood-choppers of Maine are far more free from disease than the farmers of Illinois, and scarcely know, in all their exposure, what it is to be cramped by rheumatism or parched by fever. Dismal Swamp is as healthy as Sullivan's Island, and the malaria which hangs along all the Southern seaboard finds no place in that dreadful thicket. Pestilence does not choose those sections of country or those quarters of cities which are greenest, but those which are most bare and open. Dampness is not the source of malaria, but decomposition caused by too rapid drying, whether of vegetable matter or of animal infusoria. Ditches and stagnant pools are, to be sure, not very desirable purifiers of the surrounding air, and generate more serious plagues than their legions of frogs; but a ditch which alternates from wet to dry, or a pool that is weekly emptied and replenished as wind and shower follow each other, gives forth a much more deadly poison than any ground which is steadily and uniformly saturated with water. Over these waters to-day the poison hangs and lingers, and gives itself to load the breeze to-morrow. In woods, on the contrary, while the decomposition of vegetable and animal matter goes on far more slowly, the poison which is evolved is taken up by the trees themselves, to which it is food and nourishment.

Mr. Timothy Flint, in his account of the Mississippi Valley, mentions the fact that the wood-cutters on the banks of the streams where the trees had been cut away were constantly attacked by malarious fevers, while such diseases among workmen in the forest were comparatively rare, although the ground on which they worked was quite as moist. Every tree which they left to decay on the ground helped to create the poison, while every tree left standing helped to absorb it. Many cases might be cited where the cutting down of woods has had a most unfavourable effect upon the health of the surrounding region. The Roman Campagna is only a celebrated instance of what is a very common experience. Every schoolboy is taught how plants purify the atmosphere by removing its excess of carbon, and supplying its defect and waste of oxygen, though this teaching is unusually coupled with the cautious proviso that plants absorb oxygen by night, and are, therefore, unhealthy companions of the chamber. But we have tested it abundantly, in travelling, that, when one is properly protected from mosquitoes, the night air is most pleasant in the immediate vicinity of woods, more easy to breathe, and more softly soporific than even the salt atmosphere of the famed watering-places. A night's sleep is quite as refreshing in the inn at Keswick as in the inn at Brighton, in a North Conway cottage as in a Northport hotel.

There are several reasons why forests affect favourably the health of a locality or neighbourhood. Two of these we have already mentioned—that they check the formation of poisonous miasma, and that they absorb it when it is formed, and so prevent its pernicious influence. But their effect upon climate is even more noticeable and unquestionable. They equalise the heat of the atmosphere, and so prevent those extremes which have come in these latter years to be the bane of New England. There can be little doubt that the cutting away of such large tracts of forest in Canada and Maine has had a great share in causing the intense cold of our recent winters, if not increasing the number of burning days in summer; and that the rapid changes which transpose, at the caprice of the winds, the place of the months and seasons, are due largely to this cause. In a warm day, certainly, one feels the heat more in the woods than on the open prairie when the wind is blowing; but a thermometer will give a lower temperature in the former than in the latter position. A fair way to test the difference is to sit for a while in a boat upon a pond surrounded by woods, and then to go into the woods. The sensation will instantly be one of refreshing coolness. In winter, on the contrary, the thermometer shows a much higher temperature in the woods than in the open field, with a wider variation in proportion as the external cold is greater. Teamsters know this, and even on a still day in January feel a relief from the cold the moment they reach the protecting woods.—(*North American Review.*)

Prince's Feather and Love-lies-bleeding.—At page 22, where they are said to give "a full yard of brilliant purple in one *place*," read "a full yard of brilliant purple in one *face*." To make this face to shine next year the last job for the present season should be to dig a trench ten inches wide and twelve inches deep in front of your "evergreens," where you think a Fuchsia hedge or fringe would look well. Cut up your Cucumber ridge, mix it, fill the trench with it all but two inches, pour a gallon of strong liquid manure over every yard of the trench, and then fill the two inches with the common soil; but you must not sow the seeds over the trench in the spring. You shall hear how to eclipse all the Fuchsia hedges in the world in good time.—D. B.

Uses of the Potato.—In France the farina is largely used for culinary purposes. The famed gravies, sauces, and soups of France are largely indebted for their excellence to that source, and its bread and pastry equally so; while a great deal of the so-called Cognac imported into England from France is the produce of the Potato. Throughout Germany the same uses are common; and in Poland the manufacture of spirit from the Potato is a most extensive trade. "Stettin brandy," well known in commerce, is largely imported into England, and is sent from thence to many of our foreign possessions as the produce of the Grape, and is placed on many a table of England as the same; while the fair ladies of our general country perfume themselves with the spirit of Potato under the designation *Eau de Cologne.* But there are other uses which this esculent is turned to abroad. After extracting the farina the pulp is manufactured into ornamental articles, such as picture frames, snuff boxes, and several descriptions of toys; and the water that runs from it in the process of manufacture is a most valuable scourer. For perfectly cleansing woollens and such-like articles it is the housewife's panacea; and if the washerwoman happens to have chilblains, she becomes cured by the operation.—(*Paper read before the British Association.*)

HUGELIA ELONGATA.

This is *Gilia elongata* of De Cand. Prodr., ix. 311. Raised from seeds received from Mr. Hartweg, who found it in fields near Monterey, in California.

Stem about six inches high, very little branched, much covered with cottony wool. Leaves also cottony at the base, but green, and nearly smooth near the point, which is somewhat spiny, filiform, with two or three long segments of the same form. Flowers deep blue in cottony heads, closely surrounded by long pungent linear bracts. Anthers white, projecting beyond the corolla.

This quite agrees with the specimens formerly gathered in California by Douglas. It is rather pretty, on account of the contrast between its grey woolly leaves and brilliant blue flowers, and will make a variety among hardy annuals.

Like most plants of the kind from California it flowers very early. The plant now figured, sown in May, flowered in August. By successive sowings it is, therefore, possible to have a continuation of it during all the season of growth.—(*Horticultural Society's Journal.*)

NOTES FROM THE CONTINENT.—No. 12.

POTSDAM.

Leaving the palace and gardens of Sans Souci behind me I visited one of its accessories called the Paradise Garden. Here I found a pretty little house built on the model of those at Pompeii, surrounded by a garden as nearly Italian as circumstances permit. There are baths with small fountains, overhung by Lime trees, so trained that their branches interlace horizontally at about eight feet from the ground, making a delightfully cool shade in summer, but allowing a few rays of sunlight to fall upon the sparkling water or chequer the green sward. There are plantations of Mulberry trees, and long, straight, trellis-covered walks, where overhead hang many kinds of Gourds, their fantastic shapes and the bright orange colour of many producing a pretty effect. In addition to these there were miniature vineyards and little fields of maize. This garden has won the approbation of Sir Joseph Paxton, so that any praise from me would be unnecessary.

On quitting this tasteful little spot I passed through a Russian colony, consisting of about a dozen log-built cottages, each surrounded by its piece of garden ground. There is a chapel built also in the Russian style, with its three bulb-like domes. The whole are situated on land given to them by the late king, who was by marriage connected with Russia.

At the Marble Palace, picturesquely situated by the river side, I found nothing of horticultural interest. It is only occasionally used as a summer residence by members of the royal family.

About an hour's walk from this place, and upon the opposite side of the river, is the Palace of Babelsberg, which must be of interest to every English reader, as it will form the future home of the Princess Royal. The building is in a style half baronial, half castellated, and as it is placed on the brow of a hill it is a conspicuous object from Potsdam. The view on every side from this castle is panoramic, and more beautiful than is to be found for many miles round. Standing upon the front terrace a green slope leads down to a beautiful sheet of water—one of the many lake-like expansions of the Havel. Here float several model ships of war and the pretty little steamer presented to the king by the late Emperor of Russia. Where the river again contracts it is crossed by a long bridge leading towards Gliencke, which is just visible amid the trees. A little further to the left is the Marble Palace. The background is formed by a range of hills partially covered with plantations. On the summit of the one immediately fronting us is an unfinished palace; on another we catch a glimpse of the new orangery. On the extreme left is the beautiful town of Potsdam, with its steeples and domes, and beyond, far away, gleams the silvery river. Sans Souci itself is hidden by the trees, but the great jet of the fountain forms an interesting point in this glorious landscape.

After this slight attempt to give an idea of the panorama let me say a few words on the garden which more immediately surrounds the castle. The flower garden is not large, but laid out in a scroll-work pattern, the design being far too complicated. It must cost an immense amount of trouble to keep in order strips of flower-beds only a few inches across, and to clip the intervening turf with shears; still it is done, and from the balcony above it looks like a piece of beautiful embroidery. Between this and the park is the fernery, where many kinds of hothouse Ferns are planted out during summer and do well. There is a new rosary, where a circular arcade of wirework for the climbing varieties surrounds a number of beds of Roses pegged down. *Souvenir de Malmaison* and *Géant des Batailles* were the only sorts flowering, the first freely, the latter only partially. One of the sloping banks by the side of a walk was covered with grey Moss, and in it a scroll-work pattern planted with dwarf Box. Seen from a distance the effect was curious, if not pretty. The park is extensive, undulating, and picturesquely planted. There are four new vineries built this year, but in these and a few other greenhouses at some distance from the castle I found nothing worthy of note.

There is a large poultry-yard, fitted up with every convenience for its numerous and beautiful inmates. I may, perhaps, be allowed to add that, through the kindness of the gardener, I was permitted to go through the apartments of the castle, and found that, though neither very spacious nor gorgeous, they were fitted up most elegantly,

comfort rather than splendour being evidently the end aimed at. I left the palace with a hope—in which I am sure I shall be joined by all—that it may prove as happy a home as it is a beautiful one for its future royal mistress.

Returning to Berlin (September 10th) I found many of the trees in its neighbourhood completely denuded of their foliage from the extreme dryness of the season; but what was more extraordinary, some of the Limes were making young shoots, and several of the Horse-chestnuts were flowering freely. It looked like a meeting between spring and autumn. Their flowering so late is perhaps caused by a showery day or two which we had a few weeks previously.—Karl.

CLEMATIS GRAHAMI.

Raised from Mexican seeds received in February, 1846, from Mr. Hartweg, who collected them on the mountain of Anganguco.

A diœcious scrambling shrub, of which the male only has flowered. It has much the appearance of *C. Virginiana*, but its leaves are pinnated. The leaflets are ovate, slightly cordate, acuminate, with a few coarse serratures at the side. The flowers are small, downy, pale green, and produced in axillary and terminal slender downy panicled corymbs. They have no beauty, nor is the plant of much moment to gardens.

It proves to be a hardy climbing plant, flowering freely in August and September, and suited for covering trelliswork. It grows vigorously in loam, and multiplies abundantly by cuttings.—(*Horticultural Society's Journal.*)

POTATOES RAISED FROM SEED.

A cottager in the parish I now reside in has several rods of land planted with Potatoes he raised from seed three years ago. A few days since he took them up, and their produce is much better than that of older varieties growing by them, but yet they are very much diseased. I account for that, in a great measure, on the score that his garden is close to a small river, which, when full, is level with the garden. He raised the seedlings upon a slight hotbed covered with a frame of oiled canvass, and as soon as the plants were strong enough to bear handling, and all fear of frost was gone, he planted them out. The first year they produced some from the size of a pea to that of a walnut, and last season some were of a very good size for table, and now they are in perfection; so it takes three years to prove them. Next year I intend to take some of the best of them and plant them on good land, and will then, if I am spared, publish the result. There are some of all sorts, sizes, and colours.

Upon reading Mr. Appleby's article on the "Potato Disease and its Prevention" I was induced to take up a few, the produce of tubers brought me from Switzerland, on June 8th, that being late to plant Potatoes. They were not quite ripe when I took them up, but I intend keeping them for seed. The seed came from Mount St. Bernard, where the disease had not been known for four or five years.

Part of the produce of those given me are slightly diseased, though only a very few, whilst with older varieties it is more prevalent this season than it has been at all, especially on the stiff land.

The *Ash-leaved Kidneys* which were allowed to remain in the ground until after the rain we had the first part of August were nearly all rotten, while those taken up previously to that were nearly all sound, and have remained so.

When writing upon the cultivation of the Potato in your number for February 3rd, page 305, I said I could not procure the true *Lapstone Kidney*. Since then I have been presented with nearly a bushel by a gentleman near Manchester, where they are grown extensively as the best general Potato. Truly thankful I was to receive them. I gave a few to several of my friends round, and they all inform me of their good qualities, being abundant croppers, excellent for table, and very few diseased. I cannot too strongly recommend them to be grown by all possessing a garden, and wishing for a really good Potato, but they must be the true stock. They are something in shape like the *Fluke*, but very different in the stem and leaves.—S. Taylor.

P.S.—The monks of Mount St. Bernard have a piece of land which they cultivate as a kitchen garden for themselves, chiefly growing the Potato I have mentioned. It has a white skin, but rather deep eyes, and the haulm grows very rank. I had only five large tubers given me, but they made several sets. Probably next year they may not grow so rank. They appear to be an excellent Potato, but I shall not make use of one until I get a greater stock of them.

FAILURE OF CERTAIN PLANTS IN THE FLOWER GARDEN.

In taking a retrospect of the merits or shortcomings of the various occupants of the flower garden during the past season it will be seen that it has differed from that of 1856 in many points; but, as we are accustomed to witness such changes as they affect the well-being of certain plants, we ought not to form too hasty a conclusion on the result of one season alone, nor too rashly condemn certain things for having come short of what was expected of them, nor be too much led away by the well-being of others, the success of which was, in all probability, the result of something peculiar in the season which might not occur again. We say this because we all know that certain plants do well in one season, while they do badly in the next. One reason may, perhaps, be its being too bright, dry, and hot for one article, while another benefits by it, and *vice versâ*; but disappointments repeated again and again, as well as satisfactory results likewise following each other, lead one to the belief that certain plants are suited to the situation in question, and others not. Of the latter I feel sorry to say my list is rather extensive; but I give it nevertheless, in order that others differently situated may compare it with their own, and that all sides of the question may be fully understood.

This situation is a very dry one, a light-coloured soil, not sandy, resting on a subsoil of soft, porous stone, with limestone beneath. This soil produces excellent Elm timber, quickset hedges, Hops, Morello Cherries, Apples, and Pears; Currants and Gooseberries pretty good; while pasture fields are but indifferent, Barley light, and Potatoes inferior in point of crop to that of many other districts. The principal feature in the soil, without entering into abstract chemical proportions, is the absence of iron. This I find has much influence on certain crops, and is most apparent in the grass lands, which are, on the whole, better adapted to sheep feeding than feeding the bullock.

This digression I have thought proper to make in order to point out that, notwithstanding all the skill that may be brought to act on the matter, there is still a something local left to work upon which exercises much influence on the ultimate result. A quantity of peat may be imbedded in chalk, and Rhododendrons and other plants thrive for a time thereon; but at length a time comes when the chalk warring against the peat obtains the mastery, and the Rhododendrons cease to thrive, and drag out a wretched existence. In like manner many of our more delicate flower-garden plants do but indifferently when planted in an adverse soil, and soils of an extreme kind must of necessity be adverse to some or others of the numerous ornaments enlisted into the flower garden of late years. At the same time there are many so exceedingly accommodating as to suit themselves to whatever situation they are grown in, and these, be it observed, are amongst the most useful and ornamental plants we possess; but as my purpose was to describe those which have done well this season, and those which have not, I shall begin with the latter class first.

Anagallis.—I have never had a good bed of this plant since 1850, and, in fact, have not grown it for some years; thus I ought not to include it in this season's failures, but as I purposed to record those unsuitable I mention this as showing that this plant is not a favourite with any one around here, its faults being the liability it has to die off, leaving unsightly gaps in the beds.

Double Senecio.—There is not sufficient flower on this plant when it is in a thriving condition to entitle it to a good place in the flower garden, as it seldom presents anything in the autumn months but a mass of rank herbage. I generally put a few plants in a mixed bed or border, as it is too precarious to depend on to make a bed alone.

Phlox Drummondi.—This I have never had to do well, and had ceased to try it; but this season I was tempted to try a couple of beds of the striped varieties so nearly related to this, but they never looked well.

J. Robson.

(To be continued.)

NEW FOOD FOR BEES.

May not the "tilseed" spoken of as a food for bees be the seed of the Lime tree (*Tilia*), the flowers of which are such favourites with bees, and from the seed of which an oil may be extracted? I have been curious enough to gather some of the seed and bruise it; but my bees would not touch it, though induced to visit it by a little honey. Still I am not altogether incredulous, as when the oil is extracted, or even without extracting, by fermentation, as you suggest with regard to linseed, the albumen in the seed may be attractive to them.

I wish I could speak so highly of the honey season in South Hants as your correspondents do of their success in other parts. Here there has been nearly a total failure, scores of stocks never having swarmed, whilst from four old stocks and three swarms I have only taken about 20 lbs. of honey. The cold at the end of May and beginning of June seemed to benumb them as if it had been winter.—E. H. C.

I understand by your paper of the 6th of October that some of your readers have been rather puzzled by the word "tilseed" as food for bees. I do not know more than you what "tilseed" may stand for. The fact related appeared in the French papers first, as it is said to have happened in the south of our country; but it was said that the cake used was cake of *Sesamum*, which, as you know, is a very rich oil plant. I shall not venture to give an opinion on the matter, as I have none. I only address you on account of the confusion which comes from an inaccurate translation. I am altogether of your opinion that, though it would prove very advantageous if it could be true, this fact is really very doubtful.—T. de G., *Paris*.

[The letter of our Parisian correspondent has led us to the true explanation of the alleged new food for bees, and we believe it may be as stated. In the India bazaars the seed of *Sesamum orientale* is sold commonly as *til*, and in an essay on the "Agriculture of Hindostan," published by one of our Editors some years ago, is the following passage:—"This grain, rendered so familiar by the tale of 'The Forty Thieves,' is cultivated throughout India. The plant is not unlike hemp, but the stalk is clearer and semi-transparent. The flower, also, is so gaudy that a field in bloom looks like a bed of some florist's flower, and its aromatic fragrance strengthens the delusion. It is cultivated for its oil (the gingeli), which is that chiefly employed by the natives in their culinary preparations. The oil is fitted for the purpose by its aromatic savour. The flour is used, after the oil is expressed, in making cakes." It is suited for this purpose by its sweetness, and was used also in the same way in very distant times. Parkinson, writing in 1640, says, "The seede was in ancient times much used in bread for to relish and make it sweeter."]

QUERIES AND ANSWERS.

OLD GERANIUMS, PELARGONIUMS, AND VERBENAS.

"In consequence of your advice to keep *old* scarlet Geranium plants I am about to get boxes made to preserve them in winter, and flower them in summer on my window-sill, and I shall be obliged by your giving me the needful dimensions in which they will flourish, as I cannot get such things ready made, and must bespeak them. My window-sill is three feet ten inches long and twelve inches wide. Would not a box to *fit* this be rather cumbrous and heavy to move?

But what I chiefly want to know from you is what *depth* is needful to flower them in there during the summer. Should the plants, which are now growing in great luxuriance in beds, be much cut in, and should they be lifted with a ball, or should the earth be shaken off and the roots pruned? I suppose the greenhouse is better than a dry loft for them in winter.

"I have some good Verbenas, some planted out, some plunged in pots—young plants just come into flower. What do you consider the best means of keeping them over the winter? Should they be cut down, and should they be kept dry, and will those in the ground bear well being put into pots?

"Do you recommend old Pelargoniums in preference to young ones, as well as *Tom Thumbs?* I mean such as *Beatrice, Julian, Jacques Duval,* &c."—Jane.

[So much has been said of this that we fear to repeat. Every volume at this season discusses it at length. Whether for pots or boxes proceed thus:—Remove directly many of the most luxuriant leaves, and that will help to harden the stems. When you lift them if you have a greenhouse you need not stop the shoots at all until growing freely in the spring. Under the hay-loft system when you take them up it will be as well to break or cut off all the soft spongy points of shoots, and remove all the leaves. If you can get a ball to the roots, good and well, but it is of little consequence. Secure as many fibres as you can, pack the roots thickly together in sandy soil, give a little water, and move to the loft when the soil is getting dry again. They will not, probably, require more water until the buds begin to break in March or April. Your boxes for the window will do better the second season than the first, because next year, instead of having your plants luxuriant in beds, you can, by limiting the supply of water, have your shoots hard and firm in the autumn, and the harder and more ripened they are the rougher treatment will they stand in winter, and the better will they bloom the next year. As your window-sill is three feet ten inches by twelve inches, a box three feet eight inches long, or even three feet six inches long would do, and ten inches wide and ten inches deep, and if that was deemed too heavy to move you might have two boxes twenty-one inches in length, and nine or ten inches wide, and the same in depth. If the roots are very long you may nip off the points, but that is of little consequence if you are going to put them in a good-sized box. When once established they will bloom well in the same boxes for years, all that is required being the scraping off some surface soil about April, and top dressing with rich compost.

We certainly approve of old florist Pelargoniums, but they will do no good under such treatment. They bloom best in their second or third year, and onwards to four or five, but they must be pruned back in July or August, and be re-shifted in a similar or smaller pot in August and September, and be kept growing in a greenhouse or window all the winter; but this was all explained a few weeks since.

Verbenas planted out, plunged out, and young ones coming into bloom—which are best for keeping over the winter, and how?

It is all useless trouble taking up your old *Verbenas.* Experienced hands would manage them well enough; but for what purpose the bother, since young plants do so much better? Those plunged out, and that have bloomed and grown freely, we would just consider a little better, but to be discarded unless in some peculiar emergency. Your young plants are the thing, but remove every bloom, and top the plants in to make them bushy. We should prefer young plants just struck and hardened off even to them, because they would require so much less room, and be big enough next spring and summer for anything. Our practice is to save a few pots of cuttings over the winter, and propagate the whole of this tribe in April for planting out. They must be kept airy, and moistish rather than dry in winter. There is no trouble in a greenhouse; in a window you must take care that the air is not too much dried by fire heat, and moisten the leaves. If you have no handlight, &c., for striking young plants, lay several of the points of shoots over a pot in August, and you will have nice young plants for wintering.]

MAKING A NEW VINE BORDER.

"As my Vines which have been planted fourteen or fifteen years have never done well I intend to make a new border, and plant some young Vines along with one or two of the old ones. Will you be kind enough to give me instructions how I am to proceed to make a new border, and also tell me what time you think is best for planting Vines, as I find some gardeners prefer the spring and others the autumn? My vinery is only small. Can you recommend six or seven Vines which are good bearers and fine fruit? I fear *Tokays* require more heat, and are better suited for stove heat."—An Amateur Subscriber.

[You will find much on this subject in the preceding volume, and also in others preceding that. Before you replant read what you will find on raising Vines and replanting them, and those you keep you cannot commence with too early. You say nothing of the position of your border as to height or lowness with the surrounding ground, a matter of importance, as, if in a low position, we would make the most of the new border on the top of the old one. You also say nothing of the subsoil, a matter, again, of great moment, because, though standing water is ruinous to Vines, many subsoils consisting of sand, open gravel, or chalk, are so open that drainage is little required. You would see an account lately by Mr. Robson of very thriving Vines, though the borders were likely to be overflowed with water several times in the year. Success in such a case, in addition to the texture of the border, was greatly owing, we believe, to the open nature of the subsoil. We have seen even a clay-like bottom that, from the presence of marl in it, could not be made to hold water. There is no simpler mode of investigating this than by opening a good-sized hole into the subsoil, and seeing if it will hold water after rain. If it does so draining will be necessary. The securing against stagnant water at the roots for any length of time we consider the first necessary step in Vine culture, and more particularly if flavour is held in high estimation. This dryness secured it matters little how the border slopes, whether almost flat, or sloping considerably to the south, though we prefer the latter when practicable. We were consulted as to a Vine border some years ago, which has answered well. The Vines could hardly be in a worse plight, producing few bunches, and these ill-coloured, shanked, &c. The owner had a strong idea that even these were better than none, and could not be made to believe that if he sacrificed one season he might have as many Grapes and far better ones the second year, and even in the first year if he went to the expense of getting large established Vines in pots. The old border was almost level, and two feet and a half below the top of the front wall, outside of which the Vines were planted. The border was twelve feet wide, and altogether a few inches below the level of the surrounding ground. The surface soil seemed very fair, but had no roots in it. This was wheeled into a heap, taking it off into a slope from four inches deep at the back to eighteen inches in front. The surface of this slope was made smooth. A drain at the front was taken out three feet deeper still, and the baling out of water told of one cause of failure. Small drains about fifteen inches deep and six inches wide were laid across the border at every eight feet or so. The smooth surface of the slope was then covered with from two to three inches of concrete, made by adding a barrowful of lime, seven or eight barrowsful of clean gravel, adding enough of water to mix them rapidly, and laying it down regularly with a shovel. A little road drift was thrown over it, and then it was rolled as soon as it would bear it, and was shortly smooth and hard on the surface. Fresh soil of a brown, loamy, fibry character was obtained from the sides of the highway, but, as there was a difficulty in getting the necessary supply, a good portion of the old border was mixed up with it, along with lime rubbish, pieces of charred wood, and several barrow-loads of broken bones and pieces of sandstone. When made, the front of the border is little higher than the surrounding ground, and the back of the border is within a few inches of the top of the wall. That is the way it stands now, but only about six feet in width was made at first, and the remainder was made up in three separate years, and with fresh soil, with a few leaves, bones, and lime-rubbish alone. One thing is worth noting—the old Vines

are now all gone, but it went to the heart of the owner to cut them out, so much were even they improved by the drain and reducing the quantity of earth above their roots, except when the first six feet width was placed. The new ones have taken full possession, and are as fruitful as needs be. In addition to mulching in summer, the first-made part of the border has already had a top dressing of a couple of inches of fresh turfy soil, and the points of the roots are already matting it all over. One old Vine raised by tracing its roots from the deep drain and placed above the concreting has done, if anything, better than the young ones. If there had been no stagnant water draining and concreting might have been avoided, as the roots once obtained or placed near the surface could be encouraged there by means of surface dressings and mulchings in summer, and a covering in winter.

Our friend objected to either of these on account of neatness, and hence the concreting. Where these mulchings and coverings are no eyesore they, along with surface waterings when necessary, will keep the roots near the surface, and therefore under-concreting is less necessary. In such circumstances, with the exceptions of a few bones and a little lime rubbish, alike to supply calcareous matter and keep the soil open, we should prefer the soil to be as simple and fresh as possible. Sufficient nourishment can always be given by surfacings. Under such treatment Vines will be prolific, and the Grapes well flavoured. If you aim at huge bunches and few of them, and parasol leaves, you must give greater depth and more rank feeding. If summer mulchings and waterings are neglected when they are necessary the roots *will* go down in search of more moisture than they can get by capillary attraction or evaporation from below as it passes them, and thence when they get to an extreme depth there will follow strong unripened wood, and shanked and but so-and-so-flavoured bunches.

Time of planting Vines.—This is just a case like the poet's system of government, "That which is best administered is best." Whatever time a gardener prefers he will make it answer best. We have planted in September, October, and almost every month from March to September, and care being taken to suit the time and circumstances we do not think there is much difference as to results. If we have any preference at all we should prefer August, because the ground is then so nice and warm, and the leaves on the young Vine will require little trouble in shading, and the roots will at once, when spread out, take to the new soil. Hence on to October we prefer autumn planting, but we would keep the soil warmish by a layer of litter, and dryish by covering with a sash, an old door, or a cover of some sort. The roots then would be slowly progressing all the winter, and ready to meet the wants of the bursting buds in spring.

In general circumstances then, just as in other planting, autumn is to be preferred, though we have struck plants in January, and planted them out in the middle of July, that did remarkably well, but a little care in shading and syringing was necessary at first.

As to kinds there is nothing better for a cool vinery than *Black Hamburgh* and white *Royal Muscadine*. For variety you may have one *Golden Hamburgh*, and for late keeping *West's St. Peter's Black*. For earliness at the warmest end you might have a white *Dutch Sweetwater*, but you must take a little trouble in setting the bloom by brushing with a camel-hair pencil, or pulling a dry hand gently over them. A *Muscat of Alexandria* would do also in the same place if you did not attempt early forcing.]

VINE BORDER INSIDE A SPAN-ROOFED GREENHOUSE.

"I have a span-roofed greenhouse in which I wished, if possible, to grow both flowers (principally those which would not require the aid of glass in summer) and Grapes. My house stands, as nearly as may be, north and south. The height in the centre is ten feet, and the sides about five feet. It is eighteen feet long and sixteen feet wide, and the entrance at the south end, so that the end which faces the south would be uninterrupted for growing the Grapes if you think the situation, &c., suitable; but, to make it clearer, I have drawn a rude plan, which I daresay you will understand. I thought that a width of about four feet at the end would be a large enough border for the Grapes, and it would consequently have the two pipes as bottom heat. The interior of the house is a trifle below the level of the outside, so that I think the best way would be to make the border entirely above the level of the outside, say four feet deep, or would you recommend the border to be sunk below the level, and consequently deeper?

"The Vines would then be trained up the wall, and lengthways along the roof at the top, &c., so leaving room for a stage on which to grow the other plants, &c., below, if the growth of the Vines would not too much impede the light.

"Can you recommend Thomson's retort boiler? I have heard that it is dangerous on account of its being made of cast iron. Is it so? and if so, which boiler can you recommend as being the safest and best?

"I suppose I could grow some early Cucumbers or Melons on the front of the border, which would be unoccupied by the Vines; and would you recommend that the pipes, if what I propose will answer, should be covered with broken rubbish, &c., and the compost for growing the Vines on the top of that; or will you be kind enough to give me a hint of anything which you think will suit the purpose of—An Amateur in a small way?"

[You will observe what has been said above on border making. You will escape much of the trouble and anxiety involved by having your border inside of the house, raised above the ground level, and partly heated when required. There will be no doubt of your success if you top dress well and use manure waterings when required. If your stage is not made to suit we would recommend six feet in width instead of four, and if the pipes are not placed already we would have them a little farther from the end. In such a house, eighteen feet long and sixteen feet wide, and ten feet high at the centre, two pipes of four-inch will do to keep all your greenhouse plants safe in winter; but they will not give enough heat to enable you to do anything like forcing your Vines early. You may, therefore, have Chrysanthemums, Primulas, Epacrises, Cinerarias, Camellias, Geraniums in winter and spring, and tender annuals in summer if you choose. The pipes crossing at the end of the house below your Vine border will be an advantage, but the heat from them must be thoroughly under control. For this purpose a rough chamber of some sort between the pipes and the soil would be advisable, and a couple of openings left in the wall, with slides a foot square or so, to be opened or shut at pleasure; for instance, to be shut when the Vines were starting; to be opened when heat was more wanted in the atmosphere of the house than at the roots. Thin stone slabs would make the best covering; but brickbats, clinkers, &c., placed loosely in flue style, and surmounted by fine clean gravel, would do just as well. A little strong lime made up with fresh lime, rough sand, road drift, and coal ashes put on a couple of inches thick, would make the surface pretty well waterproof. The width of a brick left out in three or four places at this level in your cross wall to keep up the border would not only secure perfect drainage, but would enable you to know in a moment the state of moisture at the bottom of your border. These openings might also be shut at pleasure. A thermometer inclosed in a tube would let you know the heat of your soil. Over this concrete bottom we would recommend from four to six inches of drainage, broken brickbats, pieces of charcoal, and then from two to three feet of good soil, fresh fibry brown loam, mixed with a little lime rubbish, broken bones, and a little leaf mould, enriched as necessary with surfacings and manure waterings. We think that three Vines would be amply sufficient; one to come along the centre, and one at five feet distance on each side; and you could not do better than have one *Royal Muscadine* and two *Black Hamburghs*. The training of the main stems southward will, in addition to the confined space for the roots, have a tendency to make the growth compact and short-jointed. In case you would like to shift the sorts of Vines afterwards it would also be desirable to divide your border into three equal spaces, and then you could clear out any one of them without injuring the others.

In such a span-roofed house a level platform would be your best stage for the centre, and that in some shape, but

moveable, might be continued over your four, five, or six feet wide borders. The first will answer well enough, and will give you more room in the house. Suppose you had a shelf at each side eighteen inches wide, a pathway on each side three feet wide, you would have a platform in the centre seven feet wide.

With the heat at your command we do not think you could do anything with early Melons or Cucumbers, or early Vines either, and after the first year there would be no room for them. You might manage a pot or two of Melons or Cucumbers after April, but so you could in a common hot-bed, and escape the risk of those insects that are more apt to attack Melons, &c., than Vines. With your heating and plants together you could only expect to forward your Vines after they broke with the natural heat of the sun.

In a similar house a friend of ours grows Vines, Melons, and Cucumbers pretty successfully, but it is divided into two parts, one for Vines, and one side of the other for Melons, and the other for Cucumbers. He has pipes the same as you for bottom heat, and as much more for top heat. Along the sides are narrow beds over the bottom pipes, prepared much as we have mentioned above. After these things are started the plants in the house are those that require stove treatment. In your circumstances we would discard all idea of Melons and Cucumbers.

We have no fears of Thomson's boiler answering, but of course it should be filled and some pressure applied before fixing, and this should be done with all boilers. We have seen them at work, and heard nothing in the shape of a complaint; but we do not feel it to be our place to recommend any one in preference to others, believing that the simpler they are, in general, the better they are, and that much of the economy of all depends greatly on the fireman regulating his dampers and keeping the ash-pit doors shut. Any small saddle-back or conical boiler would heat your house. The smallest or amateur retort of Thomson's would do, but if you contemplate anything like forcing, one larger than the smallest amateur's one would be advisable.]

PRUNING CLIMBING ROSES.

"Will you inform me if a Williams's evergreen Rose which has been planted three years, and never bloomed during that time, ought to be cut down, and how near the ground? It has made some fine shoots this season, and is from eight to ten feet high, running up a larch pole. Ought there to be any other running with it? If so, what would you recommend? Is Williams's evergreen a white Rose? I have not seen one in bloom. Will *Gloire de Dijon* stand the winter without protection? also *Gloire de France* and *General Jacqueminot?*"—A Constant Purchaser of the Cottage Gardener.

[All climbing Roses should be cut down very low each year at the end of October for three years after planting. A climber may be thirty feet long in as many months, and be ten times farther from flowering than one of the same kind just thirty inches long at the end of the third season's pruning. To keep all Rose climbers and many others from blooming for an indefinite time all that is necessary is not to prune more than the points of the green unripe shoots. At present your Rose climber, and ten thousand like it, ought to be pruned exactly like a Raspberry bush; that is, cut out close to the ground all the wood that is more than a year old; thin the sucker-like shoots to three or four of the strongest; and last of all cut them back according to their strength, four feet being the longest. *Gloire de Dijon* would be killed in October if it was left out one night in some parts of the world, but all store plants live out of doors somewhere, and you live somewhere else, but we do not know your climate.]

WINTERING A CAMELLIA OUT OF DOORS.

"'S. A.' will feel extremely obliged by directions how she can protect a large single red Camellia during the winter planted in a warm border out of doors in the north of Scotland. The plant has become so large that she cannot keep it in the greenhouse. It has been planted so that it is protected from the north by a high stone wall. On two sides it has the protection of Apple trees about the height of itself. 'S. A.' wants to know if she should have a frame of any kind put round it, or have it mulched up, or, in short, how she had best proceed to save the plant—a very fine one—if possible."

[If the "warm border" is on the safe side of the bridge of Alness, or that over the Conon, near Dingwall at least, no harm will come of the single red Camellia from an ordinary winter *after it is once established;* but for this next and the following winters protect it as they do the Araucarias at the Crystal Palace Gardens, and as we explained last spring, or thus:—Stick a circle of poles round it; let them be very firm in the ground, be as stout as a man's wrist at the bottom, stand quite upright, and not less than eighteen inches from the extremities of the shoots inside this circle; place six inches deep of dry moss for a mulching, and wattle, heather, or birch branches, or thatch in broom among the stakes, but not very closely. The top may be thatched, however, as closely as a barn, and a little conical to throw off the wet. Any Highlander could do it, and in the Highlands he would make the top flat, and put a cone of Ferns over all. For English readers it may be necessary to say that in the north of Scotland they thatch their barns, byres (cow-houses), and stacks (corn ricks), with the young branches of the common Broom (*Cytisus scoparius*, alias *Spartium*, and alias *Genista scoparia*). If the wall is near it and higher the poles might rest against the wall.]

BAY TREES LAST WINTER.—DERIVATION OF CATSUP.

"The last winter destroyed the foliage of all the Bay trees round this neighbourhood, which I never observed to happen before. Was it generally so in other places, and would you cut down the trees? They appear not to be dead at the root or for some distance up the stem.

"What is the etymology and proper name of the preparation from Mushrooms sometimes called catsup, and sometimes catchup or ketchup?"—T. M. W.

[Last winter was very destructive to the Bay tree. It is a native of the south of Europe, and not capable of enduring such a lengthened period of intense cold as occurred last winter. Those which have suffered should have been cut down last April. As they have been neglected leave them until next April, and then cut them down to the living portion.

The derivation of the name *catsup* has been disputed. It is a word introduced late in the first half of the last century, for it is not in the edition of "Bailey's Dictionary" of the date 1735; and Swift, writing about that time, alluding to novelties substituted for old preparations in our kitchen, says—

> "And for our home-bred British cheer,
> Botargo, *catsup*, and cavier."

We have very little doubt but that it is a mode of spelling the name of an inferior kind of soy prepared in China, and called there *kitjap*. This was introduced in the early part of the last century, and the spiced juice of the Mushroom somewhat resembles it. The following relative particulars we extract from the last number of Mr. Hogg's most excellent "Natural History of the Vegetable Kingdom:"—

"From *Soja hispida*, a native of Japan and various other parts of the East, the substance known as *soy* is obtained. It grows to the height of four feet, and has leaves like the common Kidney Bean, and is called *daikser* by the Japanese. The seeds are usually put into soups, and are the most common dish there, insomuch that the Japanese frequently eat them three times a day. Kæmpfer states that, pounded and taken inwardly, they afford relief in asthma. From them a substance called *miso* is obtained, that is used as butter, and likewise a celebrated pickle, called *soy*. *Miso* is made by boiling the seeds, which are called *mame*, for a considerable time in water till they are soft; and then they are beaten to a pulp along with a large quantity of salt. A certain proportion of rice is then added, and, having worked the whole up together, it is then removed into a wooden vessel, which previously contained common ale, and in two months it is fit for use. *Soy* is made by taking equal quantities of the seeds, boiled to a certain degree of softness;

corn, whether barley or wheat, roughly ground; and common salt. The seeds and pounded corn being properly mixed, the mixture is covered up, and kept for a day and a night in a warm place to ferment. The mass is then put into a pot and covered with salt, pouring over the whole two measures and a half of water. It is then stirred at least once a day for two months, after which it is filtered, the mass pressed, and the liquor preserved in wooden vessels. The older it is the better and the clearer, and if made of wheat instead of barley the blacker. The first liquor being removed, they again pour water on the remaining mass, which, after stirring some days as before, they express a second time, and thus obtain an inferior sort. Soy is much superior to the Chinese *kitjap*, although it is also sold in this country under the name of soy."]

TO CORRESPONDENTS.

Pincushion Beds (*Hanley*).—You will find this fully described by Mr. Beaton in our 407th number, page 271, of Vol. XVI.

Shrivelled Grapes (*A Constant Reader and Subscriber*).—They are shanked; that is, the stalks have gangrened or decayed. We have repeatedly stated our conviction that this disease arises from the roots not keeping up a sufficient supply of sap to keep pace with the growth of the fruit. Whether the roots are too deep in the border, or too cold, or too wet, or in an unfavourable subsoil, you who can examine them can alone determine.

Raising Seedling Roses (*A Sailor*).—We can hold out no hope to you of raising any variety superior to some of the thousands already existing. Keep the seeds in the berry until next spring, and then sow them in pots of light rich soil, covering the seeds not more than the eighth of an inch. Keep the pots in a cool greenhouse, and when the seedlings are two inches high plant them singly in five-inch pots. Keep them supplied moderately with water, and shift into larger pots as soon as they have filled with roots those in which they are growing.

Potatoes (*J. Steward*).—You will have seen our answer to similar queries. Any London seedsman, if he chooses, can obtain for you *Walnut-leaved* and *Ash-leaved Kidneys*. Of the *Onwards* we know no one who has any but ourselves. Your light soil would just suit them, and they ought to be planted in November.

Pruning Eugenia Ugni (*M. D. P.*).—Your *Eugenia Ugni* wants no pruning yet, nor for the next two or three years perhaps. The first indication of the want of pruning will be given when the shoots get so crowded that training them outwards and upwards will not relieve them much; then, and not till then, remove whole shoots from the middle of the bush and from the thickest parts. If at any time the shoots grow too long and not bushy, from having too much heat, nip the tops of them in May and June. When you have made a full-sized bush of it, and it bears a good crop, prune it annually as soon as the fruit is gathered, or any time after October to the end of February. Remove the shoots which carried the fruit, and let the shoots which were made the previous summer occupy the place, and they will fruit the following year. If this plant were trained against a fence like a Peach the same pruning and forcing would answer both, and both under a system of forcing would be pruned a little differently from that in the open air, by sparing part of the small spur-like side-shoots.

Hardy Ferns (*P. B.*).—The particulars given are not enough to enable us to decide, for *Lastræa filix mas* and the *Pteris aquilina*, or Common Braken, would do. Loam might be necessary to mix with the light soil. For the common *Polypody* decayed wood and old roots are a great help. Other Ferns delight in crumbling sandstone and heath mould. Though delighting in shade, the place must not be too dark. Suppose you make some walks, plant the Ferns in the open spaces you find most common in the neighbourhood, and keep the places near the walks for the rarest specimens, giving them what they require.

Orange Tree and Boronia dirty (*An Amateur*). — You must just persevere—there is no choice in the matter. You have left live insects, and the filth is a necessary consequence. Use water about 120°, holding a little soap and size in solution. Let the plants be shaded for a week afterwards, that is, not exposed to bright sun. Then lay them on their broadsides, turn them round and round, and syringe them well with clean water at the above temperature. Then inure them to sunlight gradually, and if possible a temperature of from 50° to 60° until they show signs of growing, and then reduce it gradually. Why did you take such plants? Nurserymen now-a-days seldom send out such things; they know that it is like cutting their heads off. *Styphelia tubiflora* dying and getting *white at the ends* of the shoots.—We suspect the drainage is clogged up, and that a plant requiring the free percolation of water and plenty of light and air has been deprived of these necessaries. Repotting may be necessary into a smaller pot.

Various (*H. C. K.*).—*Fuchsias.*—"Shall I repot?" No; let them alone, and keep rather dry after the leaves fall. Prune and start as soon as you like in the spring. The necessary modes of operation have often been discussed. With heat you may commence after the turn of the year. With merely a greenhouse or window March will be early enough if you do not excite them with a high temperature. *Scarlet Geraniums.*—If well drained and top dressed with rich compost you may command any amount of luxuriance. When housing them under the stage in the greenhouse we should hardly allow a leaf bigger than a sixpence to remain; but it would be as well not to take them all off at once. We would not cut off a shoot now for two reasons. First, the cut parts would be apt to die back if the shoot was not firm and the place dry; and, secondly, because when such shoots began to bud in spring, and were pruned a little then, the prunings could very quickly be turned into plants if desirable. *Dioscorea battatas.*—We should be inclined to take up the tubers when the foliage began to decay, but we have not grown it. *Potatoes over ripe.*—There can be no question that there is much in what Mr. Appleby says as to seed Potatoes being over ripe. We used to take up early Potatoes before they were ripe, and grew them in the sun before storing, and they came stronger than those not so treated, and earlier too, but it did not wholly prevent the disease. Nevertheless, there can be no question that young bulbs, young tubers, and young seeds produce the strongest plants. Hence the old gardeners used always to sow old Melon and Cucumber seeds to secure moderate growth and increased fruitfulness. We are obliged by the fact you mention about Peas sown in autumn being less subject to mildew if the seeds were hardly ripe and saved from the early ones of the same season. We once thought we had discovered something in this direction, but another trial dashed our hopes. However, the trial is worth repeating, and you deserve thanks for mentioning it.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

October 28th and 29th. Dorsetshire. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close October 14th.

November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder, Cirencester.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 8th and 9th. Crewe. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th, and 13th, 1858. Crystal Palace. *Sec.*, Mr. W. Houghton. Entries close December 12th.

January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, Preston.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

"TRUST, HONESTY'S SWORN BROTHER, IS A VERY SIMPLE GENTLEMAN."

In The Cottage Gardener for February last Mr. Tegetmeier cautions poultry amateurs against the Manchester school of fanciers. Permit me to thank him for his hint, and give you a little of my experience.

About the middle of last month I received a letter from a person (T. P. Josiffe, Cupid's Alley, Byrom Street, Manchester), offering to purchase the pen of Dorkings I exhibited at the Crystal Palace Summer Show for the price named in the catalogue (£6 6s.). I replied that they had been claimed, but that I had more of the same sort. In reply he wrote, "I am *sorrow* you sold the pen that I saw at the *sydenham* Show But if you have a Cockerel and 4 Pullets of the same strain I will thank you to forward them to me and put them in as *reasonable* as you Can on receipt of the same I will remit you the amt. per return of post." (The bad grammar, spelling, capitals, and punctuation, or rather, the want of this latter, are his *own*.)

To this I replied that I had reserved for him a cockerel and four pullets, that the price would be £10, and that I would wish him to say how they should be forwarded. He wrote back, "I have no objection of having the Cock and 4 pullets at the price you name providing that *the* are all you represent you will please forward them By passenger train to London Road Station, Manchester and *advice* me what train you forward them By so that my Man Can Be *their* to receive them upon receipt of the Birds I will promptly send you a Ten pound Note."

I then wrote that he and I were strangers, and my method of buying and selling was either that the money must be paid before the birds were sent, or I must have a respectable reference in London.

As you may anticipate from the above, I have heard nothing further from the *gentleman*, though a fortnight has elapsed, and each of his other letters came promptly by return.—Clericus.

[We are obliged to the Reverend gentleman who has favoured us with this communication, and we publish it for the sake of putting our readers on their guard. We recommend poultry never to be sent to any stranger without prepayment.—Ed. C. G.]

ENTRY CHARGES AND SALE PRICES.

Although really good fowls are now become plentiful at all our exhibitions, yet wherever better birds than common are shown, and the prices affixed to them are not absolutely prohibitory, they immediately find purchasers. We have always held that the sale of fowls at very large prices, say £50 or £100 for a pen of a cock and two hens, is rather injurious than otherwise to the pursuit; but we like to see such as Mrs. Pettat's Dorkings at Worcester sell for £15; Mr. Francis's Game, £10 10s.; Mr. Donne's Dorkings at the Crystal Palace, £15; the first prize pen of Gold-pencilled Hamburghs at the same place, £10 10s. We like to see these sold—it helps all parties in every way. The seller gets a remunerating price for his birds, and the buyer gets an unquestionably good pen without giving an extravagant price. Those that distance all competitors should make a good sum, and, while such encourage breeders, they also promote the attendance of purchasers.

We have been led to make these remarks by the fact of two Chicken Shows having recently failed to get the number of entries they had anticipated. In each case the entrance money was higher than usual, and it will be matter for consideration with those who delight in these meetings whether this had not the effect of lessening the number of competitors. Many will send two pens at 5s. each who will hesitate to pay £1. Again, the number of entries is somewhat influenced by the increased knowledge of the subject that is now almost general. Practised exhibitors can form a tolerably good guess as to the position they are likely to occupy, but there is yet one point where they are blind to their own interest. Those who deal in live poultry know that at this season of the year almost every large breeder has lots of extra stock for sale, and those who have attended recent shows know equally well it is useless to go for the purpose of buying. Nearly every good thing is put at a prohibitory price: of course there are some exceptions.

It seems to us that exhibitors are neglecting their interests and losing their best markets, if they have birds to spare, by entering so few. There is no place where there is a sale at good prices so readily as at a show. We do not for an instant wish it to be understood that birds likely to take a first prize should not be protected by a large price; nor have we a word to say to those who follow the pursuit as a recreation only, and do not wish to be troubled with sales; but to those who desire to realise we say, enter four pens instead of one, protect your best, or your best two as you will, but send two more of average merit at selling prices. Sometimes they may return, but they will mostly be sold, and the effect will be seen in your poultry account at the end of the year. Nothing helps a show so much as this. It increases the entries, augments the trade, and gives life to the show, and it encourages the attendance of buyers, who are fast being discouraged.

This is one reason why our poultry mother, Birmingham, is so well supported. It is only one, because the perfect good faith she has always kept with exhibitors, her Bingley Hall, and the respect every one feels for her, will always support her; but one reason why she is so supported, and why her first day is so well attended, spite of its being the most expensive, is that every one goes to buy, because almost every one sends to sell. Exhibitors are very few at Birmingham who send but one or two pens, and all those who put moderate prices on average birds sell them. The same thing is seen at the Crystal Palace, which entries prove to be a rising and popular Show. Sales are very numerous there.

The experiment of heavy entries and corresponding first prizes has hitherto failed, and we think it will fail where numbers are required. We think three moderate prizes in each class and a lower rate of entry will be found more attractive and more profitable. In this as in other things the number pays, and twenty prizes making in all £40 will bring more entries than four of £10 each. Even in competition for national monuments and buildings it is necessary to offer several smaller sums besides the one great prize as the reward of success, or competitors would be very few.

Failure often teaches a more useful lesson than success, and a medium offers security when both extremes are full of danger.

PIGEONS.

TOYS.

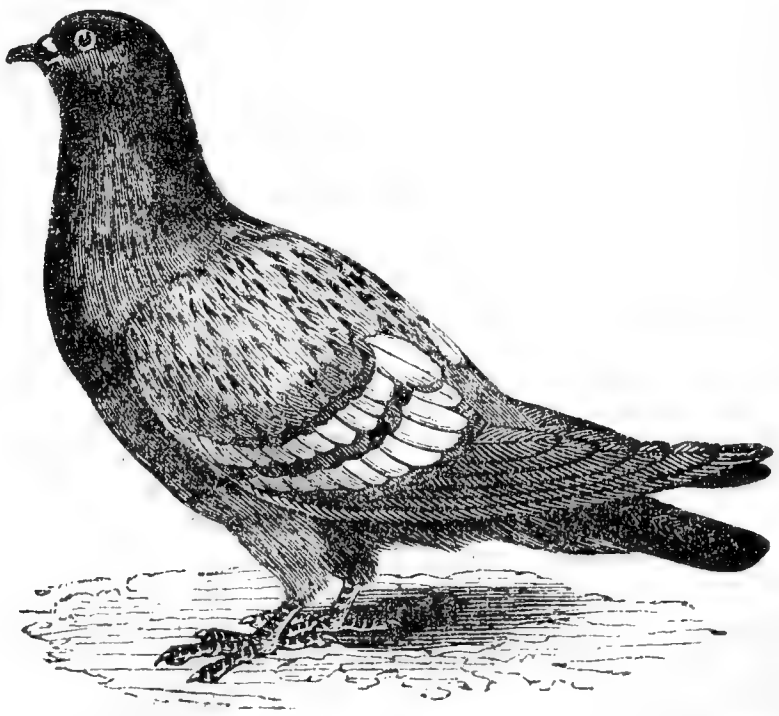
Variety 2.—THE HYACINTH PIGEON (*Columba maculata variegata*).

French.—Pigeon Maillé Jacinthe.

The Hyacinth-spangled Pigeon is a French variety, and supposed to owe its origin to a cross with the Short-legged Continental Powter. They are rather large Pigeons, and very productive, and have the power of slightly inflating their throats or crops. As to plumage there are two sub-varieties, namely, the whole-coloured and those with white flights; in other respects they are alike. The head and tail are slate-coloured, the mantle being of a clear blue, chequered, spangled with white, or, in other words, a black and a blue bar on all the feathers, the outer side of the blue bar having a white spot or spangle, which gives the beautiful spangled appearance to the bird for which they are so much admired. They are smooth-headed and bare-footed.

I am not aware of a German breed of this sort, but the peculiar marking is very frequently introduced among many of the German Toys, and is there known by the appellation of *karpfen-schuppen-artigen*, which means marked after the manner of carp scales.

THE PORCELAIN PIGEON.



The Porcelains and Victorias are simply sub-varieties of the preceding, being slightly darker in plumage; the spangling, instead of being white, is coloured. MM. Boitard and Corbie enumerate three shades of marking: *Pigeon Maillé Pêcher*, or peach-coloured; *Pigeon Maillé couleur de Feu*, red, or fire-coloured; and *Pigeon Maillé Noyer*, the colour of walnut wood. They seem to regard the Red-

spangled Porcelain as an established variety; that the Peach-coloured is produced by a cross between the Red or Fire-coloured and the Walnut-wood coloured; while this latter is also the produce of a cross between the White-spangled Hyacinth and the Red or Fire-coloured-spangled Porcelain. The difference of all these varieties consists only in the colour of the spangles or spots on the outer web of the scapular and wing covert feathers, the ground colour being blue or slate-coloured, chequered with black, and spangled with one of these colours, which I hope I have explained with sufficient accuracy. Each of these sub-varieties is found plain-coloured, or with white pinions.

The mingling of the various shades of spangles produces some very beautiful coloured birds, and has a very pleasing effect.—B. P. Brent.

POULTRY AND PIGEON SALE.

Mr. Stevens has resumed his rostrum, and his first sale is another proof of the truth of what we have always maintained, that the cultivation of poultry and pigeons has become deeply rooted, and is no more an ephemeral mania than the culture of beautiful flowers or profitable vegetables.

The sale, as usual, consisted of some very good and some very bad fowls. As an example of the results that occur to the vendor by sending the latter we may state that of eight lots of *Silver-pencilled Hamburghs* one only sold at 3s., the experiment costing the owner about 10s. and the carriage.

Mr. Johnson, of Farnham, sent some very good *Golden-spangled Hamburghs*. One cockerel sold at £1 10s.; two pullets at 18s. each.

Mr. T. Mason sent a few very promising early *Cochin* chickens, some realising £1 1s. each.

The great attraction of the sale was the collection of pigeons from Messrs. Bult, Maddeford, Summerhayes, Tegetmeier, &c.

Mr. Bult's *Powters* were, as usual, very superior, as may be inferred from the fact that the best six produced over £14.

Mr. Maddeford's collection included amongst others a very good pair of *Yellow Dragons*, which sold at £1 12s.

Mr. Summerhayes sent some very fair *Toys*, and Mr. Tegetmeier's included a very good *Barb* hen at 14s., and some good *Runts*.

That the collection of pigeons was of a very superior character may be inferred from the fact that there were buyers in attendance from Sheffield, Bradford, Birmingham, Somerset, and from even as far north as Scotland.

BLACK POLANDS.

Every one doubtless has his own peculiar fancy, and in the poultry line individual ideas are, perhaps, carried out farther than in most other things. The bold bearing and graceful carriage of a Dorking cock gains him many friends, and I am far from detracting his claims; but I cannot say I admire his mates so much, as they not only lack the beautiful plumage, but they also are deficient of that dignity of motion which belongs to the male birds. The strut of a Bantam is also deserving of notice, and he takes every means to make himself so; while the Spanish are by some regarded as the most aristocratic of the genus. Allowing all these their respective claims, I beg to put a word in on behalf of my favourite Black Polish with white topknots. The docility of these birds as well as their beauty, and, I may add, singularity of appearance, entitles them to rank higher in general estimation than they are often regarded. I am certain, too, that they exceed most other breeds in laying; and where beauty and novelty are regarded as points of consequence these pretty objects must be favourites—the young chickens particularly so. I had an example of this a few days ago. Passing through a pasture field adjoining a poultry-yard I was struck with the appearance of little white objects moving to and fro in the grass, which could be distinctly seen more than a quarter of a mile off, and which, on a nearer approach, I discovered to be young Poland fowls, while some other breeds that were near were not perceptible at half the distance; neither did a closer acquaintance diminish the interesting appearance of these singular birds. The purity of the white feathers forming the topknot contrasted so well with the plumage of the bird, and equally so with the fresh turf over which they were rambling, that I confess myself more in love with Black Polands having white topknots than with any other of the breeds of poultry which have increased so numerously with us of late years.—Warsaw.

DELAY IN SENDING DIRECTION LABELS.

"W. H." asserts that the remedy proposed by me, and inserted in a previous number of The Cottage Gardener, was simply impracticable for this reason—he says labels cannot be sent until all the certificates are received by the Secretary and the catalogues arranged. Now, I beg respectfully to differ from the views of Mr. W. H., and again assert that my proposal, although simple, was quite practicable. For instance, the fowls are all classed and the pens numbered, say Class 5, Dorkings, Nos. 1, 2, 3, 4, &c.; Class 8, Polands, Nos. 1, 2, 3, 4. Mr. W. B., of Birmingham, enters the Dorkings in Class 5, Nos. 1, 2, 3, 4, and Mr. J. P., of Gloucester, the Polands in Class 8, Nos. 1, 2, 3, 4. Another exhibitor enters three more pens in the same classes, whose numbers would consequently be 5, 6, 7, in each class. Surely there could not be a more simple method of arranging a catalogue. What is there to prevent the Secretary, on his receiving the entrance fees and description of the birds as above, forwarding the direction labels, classed and numbered as stated above, to each of the exhibitors who have entered their birds? Why should he wait until all the certificates are received and the catalogue arranged? By adopting my plan the Secretary would find it a great saving of time to himself; those persons only who delayed remitting their entrance fees and description of birds for show would be the sufferers; and those exhibitors who, not wishing to give more trouble than possible, by making early applications for entries and labels, would be free from all anxiety as to the early and safe delivery of their birds in time for the exhibition.—George Ray.

THE SOUTH-WEST MIDDLESEX POULTRY SHOW.

The fourth annual occurrence of this spirited Exhibition, which is in connection with the Agricultural Society of the same name, took place on Wednesday, the 14th, at Baron Rothschild's estate, Acton. The poultry, though not remarkably numerous, was remarkably good. There was hardly a really indifferent pen to be seen in the collection. In *Spanish* Mr. Jones took first prize in both classes; and in *Dorkings* Mr. Eley, of Hounslow, swept away the four prizes, Mr. Breavington having a commendation for a very good pen of old birds. In *Buff Cochin*- Mr. Jones first, Mr. Shackle second, for old and young birds. The cockerel in the first prize pen was a remarkably fine-coloured bird, having a perfectly pure buff tail. A good pen of *White Cochins* of Mr. Eley's took first prize. The *Brahma* prizes were awarded to Mr. Breavington and Mr. Shackle for old, and to Messrs. Jones and Shackle for young birds. The *Game* prizes were all claimed by Baron L. de Rothschild, a very good pen of Brown Red chickens from Mr. Hinge, of Hounslow, having been passed over without notice, probably in consequence of not having been dubbed. In *Polish* Mr. Jones, and in *Hamburghs* Mr. Breavington were successful, and the *Ducks* of the latter gentleman occupied their usual places as winners. Mr. Stafford, whose name is so well known in connection with Short Horns, took the prize for old *Black Ducks;* Mr. Haynes for *Geese*. Some exceedingly good *Pigeons* were forwarded by Mr. Squire, of Hanwell, Mr. Esquilant, and Mr. Jones.

The Judges of poultry were Messrs. Botham and Powell, and it is but justice to state that their awards were mostsatisfactory.

OUR LETTER BOX.

Pigeons (*D. A. C.*).—There is no cheaper work of authority than Mr. Eaton's, but the contributions to our columns by Mr. Brent will be published soon in a separate form, and we have no hesitation in saying that they will be the best work that has ever been published upon the subject. If you refer to the prize-lists at Pigeon Shows you will see that the varieties named are rewarded equally; but Almond Tumblers, Powters, and Carriers are birds of the highest fancy.

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WEEKLY CALENDAR.

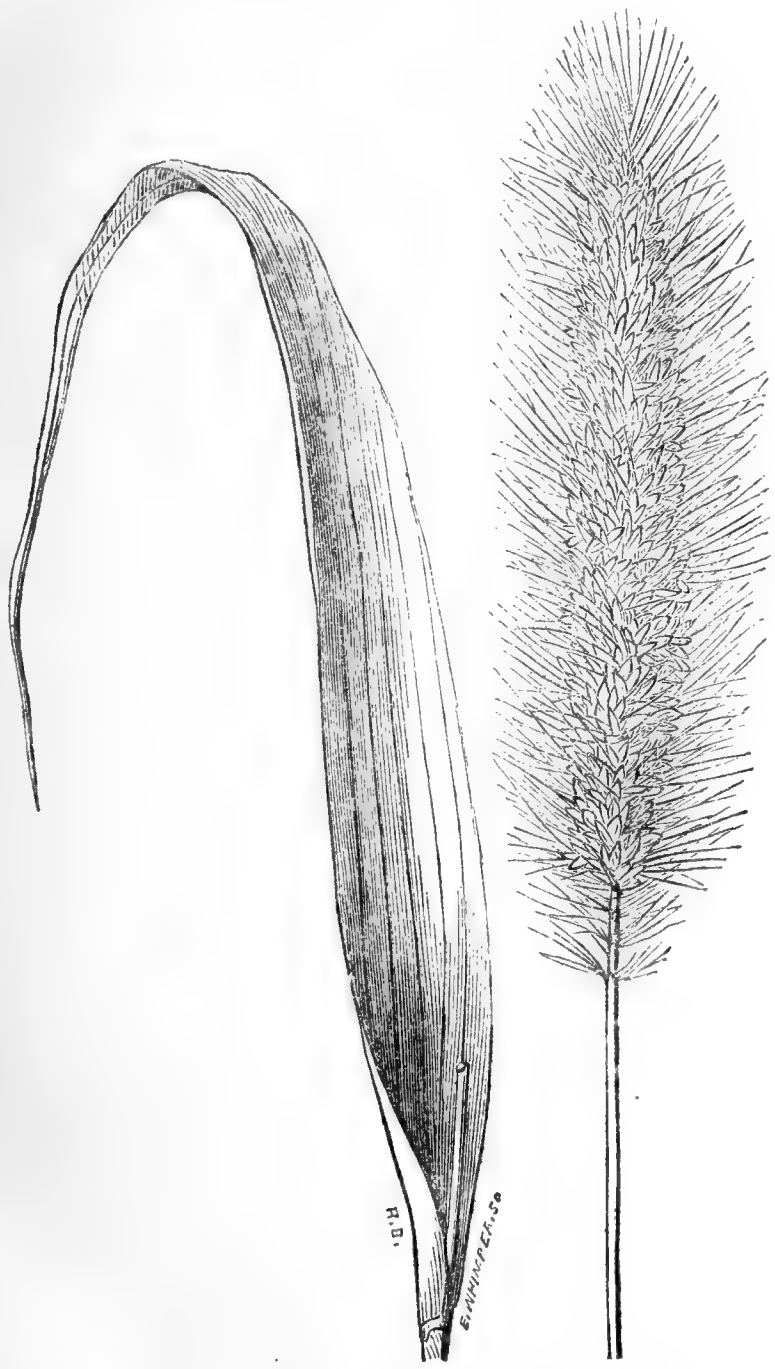
D M	D W	OCT. 27—NOV. 2, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
27	Tu	Belladonna Lily.	30.345—30.321	55—25	E.	—	47 a. 6	41 a. 4	morn.	10	16 1	300
28	W	St. Simon and St. Jude.	30.329—30.268	51—26	E.	—	49	39	0 16	11	16 6	301
29	Th	Rudbeckia.	30.230—30.184	45—37	N.E.	—	50	37	1 39	12	16 10	302
30	F	Phloxes.	30.156—30.130	58—35	S.	—	52	35	3 4	13	16 13	303
31	S	Sunflowers. [Saints.	30.313—30.097	58—46	S.	28	54	34	4 31	14	16 15	304
1	Sun	21 Sunday aft. Trinity. All	30.359—30.313	53—47	S.W.	01	56	32	6 2	15	16 17	305
2	M	Starworts.	30.306—30.223	58—39	W.	—	58	30	rises	☺	16 18	306

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 54.3°, and 38.2°, respectively. The greatest heat, 67°, occurred on the 30th, in 1833; and the lowest cold, 23°, on the 28th, in 1836. During the period 84 days were fine, and on 112 rain fell.

ORNAMENTAL GRASSES.

SETA'RIA MACROCHÆ'TA.

(Long-haired Setaria.)



This Grass has *roots* wiry and fibrous. *Stem* from two to three feet high, jointed at from two to six-inch intervals up to the very top; a *leaf* issues from every joint, its sheath embracing the stem up to the knot next above it; some leaves two feet long, pendulous, edges minutely toothed, very deep bright green, upper surface acutely rough if rubbed from the point and towards the stem, narrow, tapering gradually to a point; mid-rib conspicuous. Each stem bears one compound spike-formed panicle; involucres terminating in long pale bristles, those at the end of the panicle slightly pink; lower florets either entirely barren or only male; calyx very blunt; ovary notched at the end; style bipartite; stigma brush-shaped. It is an annual, and belongs to Triandria Digynia.

This is a bold, handsome Grass, and fully exemplifies the name of the genus by its long bristles (*setæ*), a characteristic to which that name alludes. It was introduced into England in the year 1819, but from what country we are not informed.

As it grows strong and high it should be sown at the back of a border.

The "experiment" of an autumn Fruit Exhibition of the Horticultural Society has been tried and found successful, at least so far as the Exhibition itself is concerned; for a finer collection of fruit we believe was never brought together than that which was seen in Willis's Rooms on Saturday last. How it may turn out financially we do not yet know, but so far as the gardeners are concerned they have done *their* duty, and it is quite evident if the Society is compelled to relinquish its exhibitions it will not be for want of support. We still hold, as we have always done, that it is not to its exhibitions this institution ought to look for pecuniary support. If its shows are successful and remunerative, well, but if not it ought to possess a membership sufficiently numerous to place it beyond such a contingency, and to enable it to continue its exhibitions notwithstanding. The object of such a Society should be, and is, to foster and patronise horticulture, and not to be servilely dependent on it; and, therefore, whether this great Fruit Exhibition be a success or a failure, we do not think it affects the question as to the duty of the Society to hold such exhibitions, and to use every means to place itself in such a position as to be independent of them.

It is not our intention to review, on this occasion, the collections of fruit that were in the room; next week a considerable portion of our space will be devoted to the subject, but, as many will be anxious to know the results of the competition, we have secured a copy of the prize-list, which we now publish. There were several dishes of *Eugenia Ugni*, the prize for which was gained by Mr. Gaines, of Battersea. We tasted the different specimens exhibited, and we are still of the opinion we formerly expressed, that its reputation is but fleeting, and that we do not believe it will ever attain any position among British fruits, or be regarded as a desideratum in the dessert. As a fruit it is a trifle, and may be associated with the dish of that name. Taking the Exhibition as a whole it was the finest we have ever seen, but we were obliged to remark very many instances of

incorrect nomenclature which remained uncorrected even after the meeting. Such an occasion might very advantageously lend its aid, and make the exhibitors of such fruit aware of errors of this kind; it would be doing a real service, and would also tend to make the exhibitions popular among gardeners, independently of the prize remunerations.

The following is a complete list of the prizes awarded:—

Class I.—Collections of Fruits (fruiterers only).—First prize, £4, Mr. Webber; second, £3, Mr. Solomons, Covent Garden.

Class II. (a.)—Grapes (three bunches of Muscats).—First prize, £2, Mr. Drewett, gardener to Mrs. Cubitt, Denbies, Dorking; second, £1, Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, Staffordshire; third, 15s., Mr. Little, gardener to A. Darby, Esq., Stoke Court, Slough.

Class II. (b.)—Grapes (three bunches of other white kinds).—First prize, £2, Mr. Fleming, gardener to his Grace the Duke of Sutherland, Trentham; second, £1, Mr. Drewett, gardener to Mrs. Cubitt, Denbies, Dorking; third, 15s., Mr. Tillyard, gardener to Viscount Eversley, Heckfield, Hants.

Class II. (c.)—Grapes (three bunches of Black Hamburgh).—First prize, £2, Mr. Hill, gardener to R. Sneyd. Esq., Keele Hall, Staffordshire; second, £1, Mr. Tillyard, gardener to Viscount Eversley; third, 15s., Mr. Snow, gardener to Earl de Grey, Wrest Park.

Class II. (d.)—Grapes (three bunches of other black kinds).—First prize, £2, Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, Staffordshire; second, £1, Mr. Allport, gardener to H. Ackroyd, Esq., Doddington Park, Nantwich; third, 15s., Messrs. Lane, Great Berkhampstead.

Class II. (f.)—Grapes (boxes of 15 lb. weight—market gardeners only).—First prize, £3, Mr. Davies, Oakhill, East Barnet; second, £2, Mr. Sparry, Queen's Graperies, Brighton; third, £1, Mr. J. Bell, Thorpe, Norwich.

Class III. (a.)—Pine Apples (in threes).—First prize, £3, Mr. Spencer, gardener to the Marquis of Lansdowne, Bowood; second, £2, Mr. Page, Park Hill Gardens, Streatham; third, £1, Mr. Bray, Peak Gardens, Sidmouth.

Class III. (b.)—Pine Apples (single specimens).—First prize, £2, Mr. Temple, Dowlais Gardens; second, £1, Mr. W. Williams, gardener to A. Fairlie, Esq., Liverpool; third, 15s., Mr. Bray, Peak Gardens, Sidmouth.

Class IV. (a.)—Pears of Home Growth (12 sorts, six of each.)—First prize, £3, Mr. Ingram, Royal Gardens, Frogmore; second, £2, Mr. Tillyard, gardener to the Right Hon. Viscount Eversley, Heckfield, Hants; third, £1, Mr. Harrison, Oatlands Palace Gardens, Weybridge.

Class IV. (b.)—Pears of Home Growth (six sorts, six of each).—First prize, £1, Mr. Sorley, gardener to E. Zwillchenbart, Roselands, Aigworth, Liverpool; second, 15s., Mr. H. Wood, gardener to R. Scott Murray, Esq., Danesfield, Great Marlow; third, 10s., Mr. Fowle, gardener to G. W. Cooke, Esq., Beesthrope Hall, Newark.

Class IV. (c.)—Single dishes of Dessert kinds.—First prize, 15s., Mr. Tillyard, gardener to Viscount Eversley, Heckfield, Hants; second, 10s., Mr. Fowle, gardener to G. Cooke, Esq., Beesthrope Hall, Newark; third, 10s., Mr. Snow, gardener to Earl de Grey, Wrest Park, Silsoe.

Class IV. (d.)—Single dishes of Kitchen kinds.—First prize, 15s., Mr. Snow, gardener to Earl de Grey, Wrest Park; second, 10s., Mr. Lane, gardener to J. H. Palmer, Esq., F.H.S., Fulham; third, 10s., Mr. Cox, Redleaf, Penshurst, Kent.

Class V. (a.)—Collection of Pears (Foreign growth, twelve sorts, six of each).—First prize, £3, to Mr. Lewis Solomons, fruiterer, Covent Garden.

Class V. (b.)—(Six sorts, six of each).—First prize, £1, Mr. Lewis Solomons.

Class VI. (a.)—Apples of Home Growth (twelve sorts, six of each).—First prize, £2, Mr. Snow, gardener to Earl de Grey, Wrest Park, Silsoe, Bedfordshire; second, £1, Mr. Ingram, Royal Gardens, Frogmore, Windsor; third, 15s., Mr. Cox, F.H.S., Redleaf, Penshurst.

Class VI. (b.)—Single dishes of Dessert kinds (home growth, containing six fruits of one sort).—First prize, 15s., Mr. Simpson, gardener to Lady Molyneux, Stoke Farm, Slough; second, 10s., Mr. Hope, gardener to Miss Gurney, West Ham, Essex; third, 10s., Mr. Carmichael, gardener to the Right Hon. Countess of Dunmore.

Class VI. (c.)—Single dishes of Kitchen kinds.—First prize, 15s., Mr. Frost, gardener to E. L. Betts, Esq., Preston Hall, Maidstone; second, 10s., Mr. Whiting, gardener, the Deepdene Gardens, Dorking; third, 10s., Mr. Wells, Holme Lacy Gardens.

Class VII. (a.)—Apples of Foreign Growth.—First prize, £2, Mr. Lewis Solomons, Covent Garden.

Class VII. (b.)—Single dishes of Dessert kinds.—First prize, 15s., Messrs. Hovey, nurserymen, Boston, U.S.A., for Baldwin Apple.

Class VII. (c.)—Single dishes of Kitchen kinds.—First prize, 15s., Messrs. Hovey, Boston, U.S.A., for Rhode Island Greening.

Class VIII. (b).—Oranges, Lemons, and Citrons (home growth).—First prize, £2, Mr. Robinson, gardener to Lord Boston, Hedsor; second, £1, Mr. Elliott, gardener to Lord Ilchester, Melbury House, Dorchester; third, 15s., Mr. Lane, Fulham.

Class IX.—Peaches (single dish).—First prize, 15s., Mr. Little, gardener to A. Darby, Esq., Stoke Court, Slough; second, 10s., Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, Staffordshire.

Class XI.—Melons (single fruit).—First prize, 15s., Mr. Watson, Ealing; second, 10s., Mr. Monro, gardener to Mrs. Oddie, Colney House, St. Alban's; third, 10s., Mr. Frost, gardener to E. L. Betts, Esq., Preston Hall, Maidstone.

Class XII. (b.)—Plums and Prunes of English or Foreign Growth.—First prize, 15s., Mr. Snow, gardener to Earl de Grey, Wrest Park, Silsoe; second, 10s., Mr. Whiting, gardener to H. G. Hope, Esq., the Deepdene, Dorking.

Class XIII.—Figs.—Second prize, 15s., Mr. Snow, gardener to the Earl de Grey, Wrest Park, Silsoe.

Class XIV.—Alpine Strawberries.—First prize, £1, Mr. Ingram, Royal Gardens, Frogmore; second, 15s., Mr. Tillyard, gardener to Viscount Eversley, Heckfield, Hants.

Class XV.—Currants.—First prize, 15s., Mr. Tillyard, gardener to Viscount Eversley; second, 10s., Mr. Frost, gardener to E. L. Betts, Esq., Preston Hall; third, 10s., Mr. Snow, Wrest Park.

Class XVI.—Raspberries.—First prize, 15s., Mr. Mortimer, gardener to Messrs. B. Browne, Wallington, Surrey; second, 10s., Mr. Tillyard, gardener to Viscount Eversley; third, 10s., Mr. Chesher, gardener, Hollyridge Place, Woking.

Class XVII.—Eugenia Ugni.—First prize, 15s., Mr. Gaines, Battersea; second, 10s., Mr. Williams, gardener to A. Fairlie.

OLD AND NEW COMPOST.—KEEPING BEDDING PLANTS.

Most of the fashionable flower gardens are now cleared of the bedding plants; the beds are raked down; and every stalk and leaf, with a heavy crop of short grass, and all the sweepings of the walks are put into the muck pie. The crust is to be made with the autumn leaves during the next month in daily or weekly allowances, and it should be remembered that this is the right time for "seasoning" the pie, just before the crusting begins. Nothing about a garden is so useful as a good rubbish heap if it is well managed; that is, if the stalks and roots from the flower-beds are at once well mixed and turned in and over with the summer accumulations, to be thoroughly soaked through and through with strong ammoniacal liquor from gas works, or stronger manure water from sewage or tanks, stables or cow-houses, hen roosts and yards, piggeries and cesspools. Any of these resources will not only season the pie, but will assist the process of rotting the stronger ingredients without losing their goodness. The sooner and more thoroughly these are reduced to a rich slimy state the more rich and useful they will turn out, and the more of poor soil may be added to the heap before it is covered with leaves.

This autumn has been so warm and moist that all the self-sown weeds have come up amazingly. Borders, beds, and quarters which used to be as clean as a pink are now covered with weeds in nine gardens out of ten. The usual remedy of digging them in is not at all the best way, especially in small gardens, where composts for potting and for planting choice pot plants with are always scarce and dear to be had for money; but few things are easier to be had, with good management, than these composts, as every garden can produce them. One might get cart-loads just now of the very best composts in the world for bedding plants, cuttings, and seedlings, by paring off one half inch from the surface of all the parts where weeds have got the upper hand. Put a wheelbarrow *before* a man, and let him shake off the whole surface of a patch of ground, and it is surprising what a deal he will get off, with not only no loss, but with very considerable gain. Whether there be weeds or not there are thousands and tens of thousands of eggs of insects and little grubs among the surface soil and under bushes, and by collecting them in the general contribution to the muck pie they may be all cooked up in the mass and got rid of. The more worn out or bleached the surface of a piece of garden ground happens to be, the more immediately will it suck up the goodness of the pie, and the longer retain it. All garden pies are by far too rich and go too much to waste without some soil is mixed with them when they are finished for the season.

I recollect once clearing a large quarter of Gooseberry trees from the caterpillar by surfacing it in frosty weather when the frost was over an inch deep. The

whole surface was broken up and carried away, like oil-seed cakes, to the rubbish heap, and more than the same depth was put on of rotten tan, sifted coal ashes, and lots from the bottom of an old pie or rubbish heap. There was no digging or forking in this job except where the wheel marks were, and nothing I ever saw answered better except the compost heap we had from it the two following years.

Now, however, I have a better compost for the flower garden than any of us ever yet dreamed of. There is hardly ever a weed to be seen in my own garden, yet I took a large quantity of surface from the different borders this autumn to mix in my universal compost. I can only "season" my heaps when the wind is from a certain quarter, because the seasoning is too strong for my neighbours; but it is only the ruling passion which makes me use any seasoning at all, as my compost is quite good enough for flower gardening without it. This compost is the sawdust-like refuse from the shell of the cocoa nut when they crush it for the fibre. I spoke of it last spring as the best thing for mulching, and many hereabouts tried it, and found it better than I said; but it is over twelve months since I have been experimenting on it for growing plants in pots, for striking cuttings in it, and for rearing seedlings. I now prefer it to leaf mould, and all kinds of plants root in it faster than in anything I ever saw tried. I have now 1500 seedling Geraniums and other kinds in it, and I think I shall carry them over the winter more safely than usual. All our bedding plants in the Experimental Garden are now in it. The Orange trees have improved in it, and so have the Camellias more particularly; also the Chinese Azaleas; but for these and other hard-wooded plants we only use one-third of it. For all soft-wooded plants two-thirds of it are given, and I have tried very old Geraniums in it with little else to get them into fresh roots again, and all my own boxes for winter storing scarlet Geraniums are now full of it, with about a sixth part of good mellow loam, and, which is more curious, I use no crocks with it in pots or boxes, except in pots which have very large holes in the bottom, over which I put one crock only—the rest for drainage is made of the rough fibre which we sift out of the cocoa fibre refuse.

I have, in the course of these experiments, used it fresh from the mill and in different degrees of rottenness, and I think it is best when it is about half decayed; but in every stage the roots take to it at once, and they increase in the same ratio. In summer, however, the pots want more water and oftener if much of it is used in the fresh state, and yet it seems to have a great affinity for wet, and the power of retaining it for a very long time unless it is sucked by roots. When it is used no sand is necessary except for very young seedlings and newly potted-off cuttings of tender habit. I am quite satisfied in my own mind that the day is not far distant when this substance will be used in nursery propagation all over Europe, but at present there is no demand for it to make it worth while to send it out. Every one hereabouts who has had it went to the heap and filled his own cart, and there is no other arrangement yet, so that I can give no more account of it; indeed, I forget now how the firm is addressed, but all letters about it will find the "Manager of the Cocoa-nut Fibre Mills, Kingston, Surrey."

One thing I am almost sure of, and that is, that this will be a very bad year for keeping scarlet Geraniums of all kinds, young and old; and my reason for so thinking is this—they were baked, as it were, last summer; the autumn was unusually mild, and seldom so moist and foggy. These circumstances caused a rapid and an enormously soft growth in these kinds, and, without any check from cold or from drying winds, they had to be cut down in the midst of all this exciting growth, and housed while "on the work," as they say after brewing. Take my word for it, we shall hear loud complaints of this state of things next spring. It is of no use to put off the evil day, though a prophet be not a guide in his own craft or country; but it needs not the spirit of prophecy to say the "good time" is not coming for the scarlet Geraniums this winter at least. I took up most of my gems at the end of September to make sure of a good hit. I cut down some ten days before I took them up, which is the best plan of all if all could follow it, which they cannot. The cut ends of these healed over, and the eyes just pushed by the time they were potted, and nothing but bad luck can do them harm. All my general stock of scarlets were cut down two or three inches longer than I intend them to be by the new year. This will enable me to cut the ends a second, a third, and a fourth or fifth time if needs be. Most of the old plants have been cut a second time already, and I find the centres very soft and liable to decay lower down, and they must be watched. D. Beaton.

FAILURE OF CERTAIN PLANTS IN THE FLOWER GARDEN.

(*Continued from page* 40.)

Nemophila insignis.—Somewhat strange to say, this does not do well here, excepting plants that stand over winter, and the length of time these are in flower is so short that, were it not for its invaluable colour, it would not be worth growing. As it is, I grow it for the temporary purpose of furnishing the beds in early summer along with other annuals, the best being the Virginian Stock, *Collinsia bicolor*, and a Limnanthes; but as the great value of such plants is their appearance when not in flower, that is, in the middle of winter, I find them not so good as some herbaceous plants—*Cheiranthus Marshallii*, double Candytuft, *Alyssum saxatile*, *Linum flavum*, Wallflowers, and others.

Salvia fulgens.—I have little fault to find of this plant except its late flowering; and though it is very useful by flowering up to a late period of the season, still there are few gardens that I have seen that would not look better without it as a massing plant; but in a mixed bed or a border on the rainbow fashion it is useful. The striped variety is a more shy flower than the *fulgens*, but is in other respects useful and interesting.

Salvia patens.—I have never seen this managed anywhere so well as they do it at the Crystal Palace. Here it is so liable to die off that I only grow a few plants here and there for its invaluable colour.

Dahlia (Dwarf).—I have grown purple *Zelinda* for twelve years, and generally mixed with something else. The double white *Pyrethrum* looks, perhaps, as well as anything, as it flowers before the Dahlia, and is about done when the Dahlia commences; but this season the Dahlia lost the entire month of August, or nearly so, as it flowered before that time and again in September, but either from the dry weather or some other cause there was but little bloom on it in August. This is unquestionably the dwarfest variety we have. I have seen dwarf Dahlias so called of other colours, but they seem more intermediate between this and the taller show kinds; but even dwarf as this is I would not recommend it on any bed of less width than ten feet.

Geranium (Rollisson's Unique).—I am exceedingly sorry to have to pronounce an adverse verdict against this general favourite, as I confess its tufts of purple flowers are very handsome; but it presents them too sparingly to suit the tastes of those whom nothing short of a "mass" will satisfy, and a mass to be continued too, while this plant only shows a limited number when at its best, and later in the season little else than leaves, which, however, are anything but coarse, and on a near

view always present plenty of buds, giving promise of great beauty in a short time; but somehow or other the flowers do not seem to stand the sun well, that there is seldom enough out at any one time to deserve a good character as a bedding plant, while as an ornament to the conservatory it is second to none. The other *Uniques*, as scarlet, white, &c., are even less fitted than *Rollisson's* for outdoor display.

Geraniums (other varieties).—*Fair Helen, Rouge et Noir, Moore's Victory*, and even *Shrubland Pet* have been more sparing of flowers this season than usual; and, though they must not be discarded altogether, I cannot give them a good name for flowering *en masse*. The last-named variety is excellent as a vase plant, and, perhaps, if planted in a bed with a shallow, poor soil its flowers might be more abundant. Perhaps the great heat and drought we had in August led the plant to flower out, as the term goes, and the heavy rains and warmth of September gave rise to that luxuriant growth of which I complain. As it is, little but rank foliage is now to be seen.

Calceolarias.—I do not by any means aver that these, as a class, failed to come up to the mark, but some did so. The half herbaceous kinds, of which *Sultan* and *Kentish Hero* are examples, did very badly, as after the first blooms in the early part of the summer we had little to show but plants in a languishing state, owing to the hot weather, and the rains were too late in setting in to be of any service in furnishing flowers. This was unfortunate, as a small garden of some thirty beds or more was planted solely with Calceolarias, the effect of which was spoiled by the uneven growth of the different kinds, some retrograding rather than advancing. As watering them by hand was impracticable the kinds that succeeded best were those of the strictly shrubby habit, and in most cases the oldest of them, as it must be confessed the anxiety of late years amongst those who furnish us with new kinds has been to get them with large fine trusses of bloom, never caring how few there may be, neither how much the plant may be deteriorated in habit and constitution. This mode of improvement may suit the exhibiting florist, but is at variance with the general features of flower gardening of the present day, when flower-beds are expected to be uniformly full of healthy plants and blooms from the earliest possible period they can be made so to the middle or end of October. In moister situations Calceolarias may have done better, but the season here has been an unusually dry one up to the end of August, which, in addition to the dryness of the situation, has been fatal to the well-being of the Calceolarias. However, those of the strictly shrubby kind, especially the yellow, did remarkably well in the early part of the season, flowering sooner than usual; but the absence of moisture checking the growth, there was no succession, the September rains only occasioning an abundance of wood of no use except to furnish cuttings for another year. Nevertheless, I shall not be deterred from planting this useful bedder extensively another year, as its partial failure this year is only owing to the long-continued dry weather. The late-flowering kinds, *amplexicaulis* and its varieties, have done as well as usual, and are now, October 12th, the only ornaments of these species worthy of notice.

Besides the above mentioned others might be cited as not succeeding well, as *Fuchsia fulgens* and *German Stocks*, three beds I had of the latter never looking well, although I had arranged, by sowing and planting out, to have a succession; but there never was that quantity out any one time to deserve approval. Annuals in general do not do well here in summer, remaining so short a time in flower that it is only those that stand over the winter to flower early in the summer that are worth noticing. *German Asters* have, however, been better; but when a series of beds connected together are to be filled with plants expected to last the season through, these must not be introduced; for, though they may be more striking than most things for a time, their beauty is but transient.

As I have extended this list of failures and partial failures to a greater length than I expected I must leave the catalogue of those of more general utility till another week; at the same time it will be seen, by the above "weeding" made in the category of such things, that the selected ones must be fewer in number than most people would like. Be this as it may, it is only fair to publish a plant's shortcomings as well as its merits, at the same time noting what effect the season or situation may have had in making it so.

J. Robson.

NOTES FOR NOVEMBER.

As the active vegetation of the year is now over the operation of seed sowing in the kitchen garden is only recommended for some early *Peas* and *Beans* in a warm border. The *Coleworts* for winter and spring use to be earthed up. The *Cauliflowers* now nearly fit for use to be taken up, and laid with their roots in some soil, and their heads so as not to touch each other, in a frame or shed, to be protected from frost, and kept free from dead and decaying leaves. The *Celery* intended for winter use to be earthed up to a good height as soon as the soil becomes a little dry. Frost may be expected shortly after the heavy rains we have had lately, which would do it some mischief. Continue to blanch *Endive* by tying it up, or by wrapping the leaves together, and laying slates or two flat tiles on each plant so as to form a slight ridge, one slate or tile overlapping the other. Air to be given daily to the young *Lettuce* plants in frames. If we may judge of other places from what we have seen lately the *slugs*, after the late rains, will be numerous and destructive to many things; therefore it will be necessary to lay a quantity of cabbage leaves on the ground, and to examine them daily, providing yourself on each round with a flower-pot of quicklime, into which, like medicine, the slugs are to be shaken when taken.

The present is the most favourable month for *planting fruit trees*. Vegetation is declining fast to a comparatively dormant state, and the soil still retains sufficient warmth to excite a gentle root action to establish them in their new quarters before the severity of winter sets in. To expect to see a wall well furnished with good bearing fruit trees it is necessary to provide them with good soil, and to plant them carefully. In the first place the borders should be thoroughly drained, and not more than two feet deep, the soil a yellowish hazely loam from a sheep pasture, only about four inches of the top being used, which is all-sufficient without the admixture of dung or any other rich manures, that only serve to engender disease. In planting the highest tier of roots that proceed direct from the stem should be rather above the surrounding surface, every root to be laid out straight, and carefully covered with fine soil, watered, and then mulched. If fresh trees are to be planted on old borders a barrow or two of fresh soil may be put in each hole, and mixed with the soil of the border; the holes to be made sufficiently large for more than the full extent of the roots when laid out straight. It is from inattention to this, by cramping and twisting the roots, that suckers arise. There will now be plenty of work to prune and nail *Pears, Plums, Cherries, Apples, Gooseberries, Currants*, &c.; to unnail the young shoots of *Peach* and *Nectarine* trees; to prune and tie espaliers as soon as the leaves fall from the trees.

If attention has been paid as directed to the summer management of fruit trees by displacing the foreright and irregular shoots, and by pinching off the points of young shoots where lateral branches were desired, the knife will now be only required to cut away worn-out bearers and decayed or cankery wood, and to reform or to remove any casual irregularity or ill-placed branches that have been overlooked when covered with foliage. All the eligible natural fruit spurs to be retained, and all the unfruitful stumps and snags, and the large, projecting, rugged spurs, or stag's horns, to be removed.

The *Gooseberries*, *Currants*, standard *Apples*, *Pears*, *Plums*, and *Cherries* will require to be kept open in the centre for the admission of light and air, all irregular and cross branches to be removed, and any luxuriant shoots that extend out of limits to be shortened. A good eye and quick hand are necessary to lay in the branches without disfiguring them with a superabundance of black or red patches called shreds.

Prepare a slight hotbed with leaves and dung, to produce a gentle heat for *forcing Asparagus* if an early supply is required. One of the old beds in the open ground to be taken up in part as required, to fill the bed as closely as it can be placed, and covered by degrees with any light soil to the depth of five or six inches. Be careful that the rank steam, if any arises, evaporates before the roots are planted. *Sea-kale* and *Rhubarb* may be taken up and forced in any convenient place where there is a gentle heat kept up; but if there is no such place at liberty for this purpose they may be forced where they stand by covering the Sea-kale with garden pots, old bee-hives, or hooping over with rods, and the Rhubarb with old chimney-pots, long boxes, or anything else that the ingenious contrivance of a handy man can make available for the purpose, to be covered with leaves and stable dung.

If any *alterations* are to be made in the shrubberies or pleasure grounds now is the time for the removal and planting of shrubs and ornamental trees. This being one of the finest autumns we have experienced for years, no time should be lost in making all the advances in this department which circumstances will permit.

Carnations and *Picotees* that have been lately potted and glassed down pretty closely require to be examined daily to ascertain that no mildew is making its appearance. Those that are pretty well established must not be closed down during the night, but should be tilted at the back and front of the lights to allow a free circulation of air to pass over the plants, which is the most effectual method of preventing the spot or mildew from attacking them. If watering is necessary it should be given in the morning.

The sooner the *Dahlias* are taken out of the ground the better, to be thoroughly dried before they are placed in their winter quarters.

The Lord Mayor's day has long been celebrated by London growers as the favourite period for planting their best bed of *Tulips*. The bulbs to be selected by weight in preference to size, and a regularity of growth and contrast of colour are points of perfection to be attained by experience. All loose skins to be removed, and the neck to be examined to ascertain that it is free.

The *Petunias*, *Verbenas*, *Calceolarias*, and all other such bedding-out plants should now be in their winter quarters, either in cold frames or pits, or on shelves in the greenhouse near the glass. The supply of water to be merely sufficient to keep them from flagging; to be frequently looked over; the surface of the soil, if compact, to be stirred up if it is green and sodden after watering; the drainage to be examined and corrected, dead leaves removed, an abundance of air to be given every dry day, and shut up in good time before the fogs or damp night air would injure them.

Strict attention to cleanliness in the *greenhouse* is one of the principal things to be attended to at this season. Use water and fire heat with moderation, as plants during this and the following dull month should be kept as dormant and excited as little as possible. If the house is high and dry there will be no occasion for fires unless to repel the encroachments of frost, but if low and damp an occasional fire in the morning will be necessary to purify the atmosphere by expelling the superabundant wet.

Chrysanthemums will now attract particular attention, and will require an abundance of air, never to be allowed to flag for want of water, and to be supplied occasionally with liquid manure.

The bulbs of the beautiful *Japan Lilies* should now be shaken out, and repotted in equal portions of fibrous loam and peat soil, with a liberal sprinkling of sand and good drainage. The bulbs to be merely covered with the soil two or three inches from the top of the pot, to be earthed up with the compost in the spring, as it puts forth roots for two or three inches up the stem.—William Keane.

GARDEN METEOROLOGICAL INSTRUMENTS.

The great expense of what are called philosophical instruments has hitherto been an obstacle in the way of their general adoption. If a gardener wanted a good barometer he had either to put up with one of those small clock-faced ornaments, which are remarkable for nothing but their uncertain and incorrect indication, or to lay out a large sum before he could get an instrument on which he could depend. Cheap instruments of this kind could always be had, but there was no security as to the correctness of their action. It was, therefore, with great pleasure that we inspected a new and very handsome barometer a few days ago made by the eminent opticians, Messrs. Casella and Co., of Hatton Garden, whose name is a guarantee for the character of any instrument. Its action is very correct, its appearance is highly ornamental, and would adorn either the gardener's cottage or the hall of the mansion. The cost is comparatively a mere trifle, being somewhere about 14s. The garden thermometer made by the same gentlemen is also an elegant and cheap instrument. We are much indebted to Messrs. Casella for thus popularising these useful articles. Could not something be done in the way of a cheap and *really good* achromatic microscope? Microscopes there are in abundance, and some would call them cheap; but one of say 250 diameters, issued at a cheap rate, and guaranteed by a house like Messrs. Casella's, would meet with a ready sale.

VINE MILDEW.

Some years since I had an unmistakable visit of this plague. Sulphur was resorted to with an unsparing hand; but though in addition to covering the pipes and flues with it mixed with lime, and the bunches being completely coated with it, and besides trying it mixed with soot, &c., I could not succeed in softening and cleaning their skins. The consequence was that as soon as they began to swell the second time the greater part of them cracked and were utterly useless. Cutting off in this case would have saved much anxiety and kept money in my pocket; but, though I had not succeeded with the fruit, I congratulated myself till this year with effectually keeping out the enemy. However, a little time since my man roused me with the intelligence that our old enemy was in the camp, and on inspection next morning I found there was no doubting about it. Syringing and dusting with sulphur were again applied till the berries were incased in it, yet without stopping the progress of the disease; indeed, rather promoting it than otherwise. As there was time, if the Vines were cut to the ground, to have got up a good supply of young wood for next year, my first idea was to cut the whole to the ground; but as nine rather large houses were at stake, and finding the berries only were affected, I thought I would try washing them first, and glad I am that this was done; and I say, therefore, now, keep the bunches on, thoroughly wash them with water either with a soft brush, sponge, or piece of flannel, and dust them before they are dry with sulphur. This has succeeded in saving thousands of bunches the size of peas up to the colouring point, and, as it is within the reach of all, I say lose no time in trying, no matter how white the berries are with the mildew; of course, if black and rusty, cut them off.—D. Ferguson, *Stowe, Buckingham.*

P.S.—The above was sent in August to your contemporary, and it is now the 14th of October. I am happy to say that the washing in every instance has fully realised all my expectations, not having, to my knowledge, a score of berries cracked that were washed. On the contrary, the unwashed cracked in every case, and those left for experiment that had an extra share of the mildew never attempted to swell the second time at all, but rotted on the trees. The washed berries not dusted with sulphur afterwards I am happy to say had no relapse of the disease, and this is worth knowing, for it is difficult after dusting to get rid of every particle of the sulphur.

WINTER WINDOW GARDENING.

At the time of writing (October 20th) my window garden is as gay as ever. In a space eighteen inches by ten inches by ten inches I have upwards of twenty beautifully-foliaged plants growing luxuriantly, yet without crowding. Besides these there is room for fourteen small fish to enjoy themselves amid the miniature forest, and very happy they seem. I tap with my finger-nail on the side of the glass tank, and immediately up they come flocking to the spot. A few pieces of vermicelli being dropped in cause quite a commotion —such pushing and diving, choking, chasing, and gulping.

I would recommend such a garden particularly to "cottagers," being so inexpensive, and withal so gratifying.

> "The water is calm and still below,
> For the winds and waves are absent there;
> And the sands are bright as the stars that glow
> In the motionless fields of the upper air."

Let our friend, The Cottage Gardener, consider the words of Jones, of Nayland, when he says, "Let a man have all the world can give him, he is still miserable if he has a grovelling, unlettered, undevout mind. Let him have his gardens, his fields, his woods, his lawns, for grandeur, plenty, ornament, and gratification, while at the same time God is not in all his thoughts; and let another man have neither field nor garden; let him look only at nature with an enlightened mind—a mind which can see and adore the Creator in His works, can consider them as demonstrations of His power, His wisdom, His goodness, and His truth; this man is greater as well as happier in his poverty than the other in his riches."

Knowing the cost of wood engraving I withhold a sketch of my case, which I can assure my readers is very amusing, interesting, and instructive. Instead of the drawing here is a list of my plants and fish.

PLANTS.

5 *Vallisneria spiralis*, Italian Water Grass.
3 *Musca fontinalis antipyretica*, Great Water Moss.
2 *Chara vulgaris*, Common Chara.
1 *Anacharis alsinastrum*, Canadian Anachrus.
1 *Hottonia palustris*, Water Violet.
2 *Myriophyllum aquaticum*, Finer Milfoil.
1 English Water Grass.
2 *Pistia stratiotes*, Egyptian Houseleek.
1 *Ranunculus pantothrix*, All-hairy Ranunculus.
1 *Potamogeton gramineum*, Grassy Pondweed.
Lemna gibba, Duckweed.
Lemna, new floating plant.
2 *Callitriche autumnalis*, Starwort.

FISH.

2 Bleak.	1 Minnow.	1 Gold Carp.
3 Prussian Carp.	1 Loach.	2 Gudgeon.
2 Bronze Carp.	1 Eel.	1 Tench.

Truly "the works of the Lord are great, sought out of all them that take pleasure therein."—E. A. Copland, *Bellefield, Chelmsford.*

EASY METHOD OF PEGGING DOWN PLANTS.

As some of your correspondents are giving their opinions upon the most suitable materials for pegging down bedding plants, some advocating wooden pegs, and others bast mats, if the method I adopt is of any service to the readers of The Cottage Gardener perhaps you will have the goodness to lay it before them. Having many plants annually to peg down, and but few fingers to perform it, I was obliged to find out the most expeditious mode that would effect that purpose, wood and fern requiring more time to make into pegs than I could well spare. I got a bamboo cane cut into lengths of about nine inches, and with a small billhook cleft the lengths into manageable pieces for the knife, then with the latter implement I split these pieces into very small strips. Any handy man with his knife can make an immense number of these in a very short time. These strips I tie up in small handsful, and an hour or so previously to using I throw them into a can of water, which makes them bend more readily without breaking. Each of these by the finger and thumb is converted into a perfect hair-pin shape, which I find to answer admirably. Since I adopted the above mode my pegging down has not been such a big job as formerly; indeed, I have often wondered why it was not adopted very extensively. It must not be much known. —A Northwegian.

WARDER'S HIVES.

In my paper on bees at page 382 of last volume I made some remarks on Warder's book, eighth edition, which are noticed by Mr. Tegetmeier at page 412 under the head of "Strange Notions, False Statements, and Collateral Hives." When I said that Warder's hives seemed to be collateral ones I meant Geddy's, noticed at page 110, not Warder's eight-sided boxes described at page 121, which are storifying, or rather, on the common plan of putting an empty hive or *eke* under a full one. I knew Warder's hive before I was hardly able to read his book. My father had a *set* of his boxes at Melville House, Fifeshire, and whatever Mr. Tegetmeier may think of them the plan is defective by the great loss of brood when a box is taken away; indeed, more so than the cottager's *drumming one* when properly done, by which the brood is saved. In my book on bees I stated that Warder's hive was the same as Geddy's patent one in the time of King Charles II., but was told afterwards that such was a collateral one, and that Nutt either copied it, or from another who gave drawings of the three boxes. But, be that as it may, Warder's book is not clear on the point, and as it is of little consequence I pass on to notice that Mr. Tegetmeier asserts the "collateral plan is most unsatisfactory." Some good apiarians, *not of yesterday*, think otherwise; and I know enough of bee-keeping to warrant my saying that success depends most on the season and pasturage. But perhaps Mr. Tegetmeier will either state his friend's address, or the method by which he expects to have £50 or £60 worth of honey this season. That amount beats Warder's, which I shall notice, whose knowledge of bees was far beneath that of the writers in these days, whom Mr. Tegetmeier speaks slightly of. For instance, Warder states that "young working bees are fed like sparrows some days before they leave their cells," and in "wet days they solemnise the funerals of their dead," meaning that bees lose no time in good weather to clear out their dead; but the contrary of both requires no comment; nor that the "drones sit and hatch the brood, keeping the eggs warm . . . . are not suffered to go out till one or two o'clock." Also the "queen bee's large legs are as yellow as gold, as she is all along the under part of her belly."

I pass from such silly notions to observe that Warder calls Virgil the "silver-tongued poet;" but he may be as justly called golden-tonged, for he says that in "three years time you may, from ten straw hives (if good weather comes) have bees enough to take the fourth year 160 more," observing, "such comes to £40 sterling." This statement was made about a century and a half ago on the great increase of bees by swarming, and it may be the root of some imaginary ones in these days; but all who count on honey harvests that way should be told of Warder's true remarks at page 80. "I think scarcely one cast in twenty will gather honey enough to keep them till next spring." Casts mean second swarms. Thus 160 hives are brought near to eighty; and I could go further, but at present refer the reader to an able notice on false statements of produce from hives at page 407, last volume, by "An Old Apiarian," who truly observes from Golding "that it is not the kind of hive that commands the honey store. No; that will be ruled by the season and locality, and these vary greatly." These few words are sufficient alone to place Mr. Golding amongst our best apiarians, although Mr. Tegetmeier chooses to put him down with others as "not bee masters." I have already said in these pages that he was Dr. Bevan's confidential friend and assistant when he wrote the "Honey Bee," therefore Mr. Tegetmeier's attack cannot affect the character of so worthy a man.—J. Wighton.

THE AMERICAN PEACH CROP.

Elkton, Md., Sept. 1, 1857.

The Peach season is now at its height. The delicious fruit is pouring into the city markets; and as a majority of the readers of the *Tribune* have but little idea of the productiveness of this crop, we will, for their benefit, give a few items in regard to Peach-growing, &c. Let us, then, take a peep at the celebrated "Peach Blossom Farm," which is one of the most extensive Peach orchards in the United States. This farm is situated in the lower part of this (Cecil) county, on the Sassafras river, and contains 650 acres, 400 of which are planted in Peach trees. It was sold last winter by the creditors of the late James Casseday, (who in 1839 planted the first tree, which is still bearing,) and was purchased by Anthony Reybold, of Delaware, for the sum of 34,144 dollars 50 cents.

The Peaches generally commence ripening about the 5th of August, and from that time till the close of the season, say the 25th of September, they are gathered and sent to market at the rate of from 800 to 1,500 baskets per day. During this period from 50 to 100 hands are constantly engaged picking and shipping the fruit, and two steam-boats are employed in carrying it to the Philadelphia market. The Baltimore market is much more convenient, but it generally commands such poor prices there that it is found advisable to send it to Philadelphia. The pickers are divided into gangs, each gang being composed of ten or twelve men, and having a captain or overseer to direct their movements, and see that no unripe or imperfect fruit is gathered. Thus arranged they pair off, and commence operations by every two men selecting a step-ladder and a couple of hand-baskets. By means of the ladders they are enabled more easily to climb the trees; and then hanging their baskets on a convenient limb, by a hook fastened to the handle for that purpose, they proceed with their labours. As often as their hand-baskets are filled they are passed down and emptied into the baskets in which the fruit is sent to market, and which usually contain about three pecks. Day after day the same routine is gone through with, and during the months of August and September a Peach farm presents quite an animated scene. Here on every side can be seen gangs of pickers, mostly Dutch and Irish, with their baskets and ladders; there go peculiarly constructed spring waggons, laden with baskets filled with the tempting fruit; and yonder, at the wharf, lies a huge steamer taking in her luscious cargo. All is bustle, for the fruit is ripening rapidly; and the great object is to get it to market in proper condition. A single day's negligence or inattention may cause the loss of several hundred baskets of fine fruit.

In consequence of the pecuniary embarrassment of the recent owner of "the Peach Blossom" orchards the trees have been much neglected of late, and having declined considerably are not near so productive as formerly. Some years ago as many as 70,000 baskets were gathered from them in a single season. In 1854 the crop sent to market was, in round numbers, 25,000 baskets; in 1855 it was 42,000 baskets, and in 1856 about 12,000 baskets. The prices for the years above mentioned averaged as follows:—1 dollar 14 cents per basket in 1854; in 1855 but 36 cents per basket, and in 1856 about 1 dollar 50 cents per basket. As the cost of getting the fruit to market is about 22 cents per basket, viz., 12 cents a basket freight, and 10 cents a basket to cover picking, selling, and other expenses, it will be seen at a glance that the most profitable seasons have been those in which there has been a scarcity of fruit. Thus:—

Year.	Gross Receipts. Dollars.	Expenses. Dollars.	Net Receipts. Dollars.
1854 . . .	28,500	5,500	23,000
1855 . . .	15,120	9,240	5,980
1856 . . .	18,000	2,640	15,360

In 1855 there was an immense Peach crop in every section of the country, and the city markets were constantly glutted; hence the very low price of fruit that season. The present year the crop will be a very light one; the prices will range high, and such of the Peach growers as are fortunate enough to have any fruit will realise large profits.

From the statistics given above a casual observer would conclude at once that Peach-raising is one of the most profitable agricultural pursuits in which a man could engage; but when the planting, worming, trimming, and cultivating the trees are taken into account, we doubt whether, one year with another, it is as profitable as grain-growing. Those who are engaged in raising grain extensively can easily make the calculation for themselves.—(*Correspondence of the N. Y. Tribune.*)

TANKS FOR AQUARIA.

The aquarium is no longer a novelty; it is an established home pleasure, a favourite domestic ornament; it has opened many new leaves in the book of Nature to inquiring students, and largely aided in the popularising of certain distinct subjects; for while it pleases the eye and affords a pretty scientific recreation, it is also a new source of useful and entertaining knowledge.

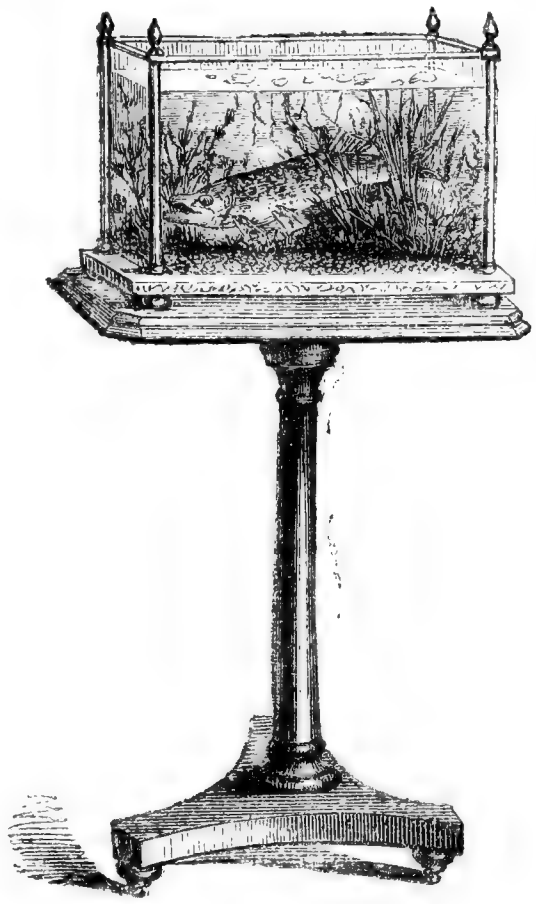
I attach great value to the privilege accorded me by the Editors of The Cottage Gardener of communicating with aquarian students through these pages; and as we shall consider *seriatim* the several steps which conduct us to the proper study of Marine and River life, it seems best to begin at the beginning, and in this paper, therefore, we will briefly deal with tanks and their construction.

There is scarcely a town of any importance in the kingdom but has its makers of tanks for aquaria, and now that the proper mode of constructing them is pretty generally understood there is not much difficulty experienced in getting them of any size or shape, and at almost any price, from a few shillings to many pounds. Still an experienced eye will note in the windows of vendors, especially in London, many offered for sale that would be a disgrace to the home of an aquarian; for though anything that will hold water may in some way or other be used for the purpose, success for purposes of either ornament or study is only to be attained by the use of vessels made after the most approved models and of the *proper materials.* A great many try their hands at the work who have never spent a single day in fitting or managing an aquarium, and it is impossible that such persons should understand thoroughly what are the requisite conditions. Hence we see lumbering boxes that are called aquariums, because there happens to be a few squares of glass clumsily squeezed into them; and generally speaking amateurs who make their own vessels are very unfortunate—they are either ugly, or inconveniently shaped, or leaky, or *poisonous.* And here let the first condition be understood—the metal used should never come in contact with the water.

Not long since I was requested by a friend to look at an aquarium which had been voted a perfect nuisance. It had been stocked again and again, but nothing would live in it beyond a week or two. What those poor fishes suffered pen could not describe. First they were over-fed and the water made putrid, when they died of plethora; another lot was got and starved; when they perished a third shoal was got, the water changed daily, the house kept in a continual slop, and every day or two all the victims were caught, laid in plates, and the coldest spring water dashed on them. With all this they would not live; pisces no sooner rose to the horizon than he underwent a gloomy occultation, so the water cure proved quackery, and the family came to the solemn conclusion that to keep an aquarium is to make a fool of yourself. In some such cases this might be very fairly inferred.

When I saw it I pronounced it a pretty and well-made tank, and it was certainly well stocked as far as the purchase of fishes went, but the plants were in a miserable state, and the noble gold fish languishing. I emptied it and cleared out the bottom, and what was my astonishment to find that *inside* it had a *zinc bottom.* The remedy was simple. It was scrubbed out, well dried, and the bottom covered with a coat of pitch, then seasoned by being kept filled for a week, then stocked in fine style, and has done well ever since, and the good folks declare the result to be wonderful. Now, I know that that tank came from a house that has sent out a great many, and they are now as good makers as any in the trade, therefore we need not *Lancet* them for adulterating the water; but the fact set one thinking how many enthusiasts they must have driven crazy with these their first efforts to popularise the aquarium.

The best tanks for general purposes are those of a rectangular shape, the bottom inside of slate, let into mouldings on a zinc bottom, and with zinc joints to unite the plates of glass. I will describe a tank which was made for me a year ago by Messrs. Treggon, of Jewin Street, and which has been in use ever since as a river aquarium. I consider it, as to size and make, one of the best models for a drawing-room or parlour window.



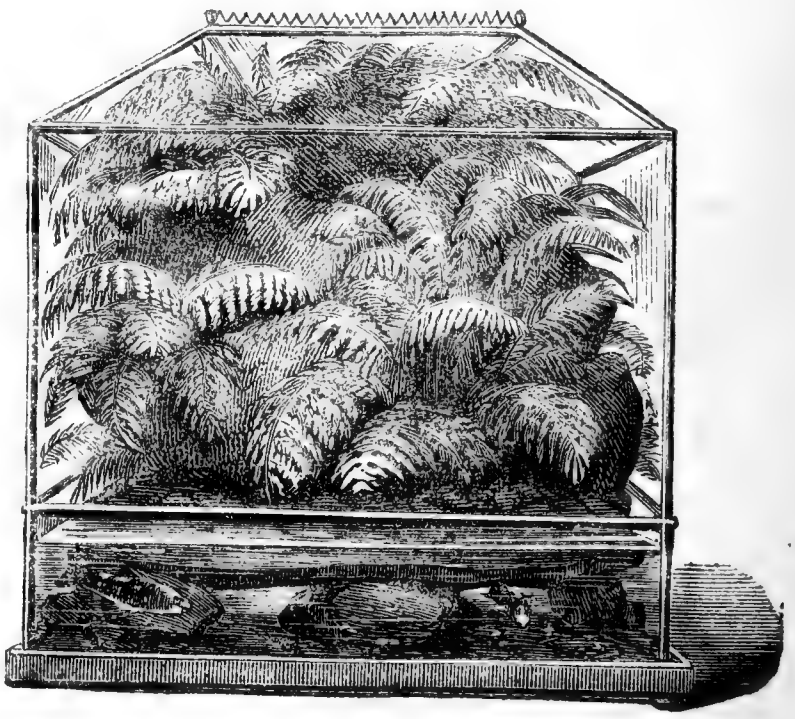
It is oblong, and with all four sides of plate glass. The joints are elegantly moulded in zinc, and are very light in appearance, but strong. The base is of zinc, with bold mouldings, and it has a zinc bottom on which it rests. Inside the bottom is of slate, and all the joints are cemented with white-lead putty, neatly painted over white; outside the metal work is bronzed, and the top is made with a rim on three sides, so as to receive a sliding sheet of glass whenever a cover is necessary, but which has never been used. Its measurements are from base to upper edge sixteen inches, from front to back sixteen inches, and along the front and back two feet seven inches. The cost of this was £5*.

* This is nearly a double cube, a geometric form which gives the greatest possible elegance to an oblong rectangular object. But as the mind is apt to resolve it into its elements, and so compel the eye to see its natural division into two cubes, it is best to deviate slightly, as in the case of the measurements just given, which in length is *one inch* less than it should be to form a double cube.

One grand essential of a glass tank is strength; hence plate glass is always best, but for moderate-sized vessels sixteen-inch crown glass does very well. The joints ought to fit well, so that the glass is held in the grooves firmly and almost water-tight without cement of any kind. The material mostly used for cementing is Scott's cement, which can be had direct from Mr. Scott, of Newcastle; but white-lead putty is very effectual, but requires careful seasoning by filling and emptying the tank frequently before any live stock is committed to it. Indeed, a new tank, if not carefully seasoned, will be pretty sure to poison everything for several weeks when first put to use. Instead of zinc pillars to unite the sides turned rods of birch wood may be used, and may be either painted or polished; and to hasten the tank for use the cement, if white lead be used, may be coated with shellac dissolved in naphtha, and made into a paste with whiting: this shields the lead from contact with the water, and renders only one filling and emptying necessary.

The same rules apply to the use of wood for tanks; for though not so durable as slate and zinc, wood without the aid of any metal is a very good material, and its lightness when the vessel requires to be moved gives it an additional advantage. But wooden tanks are generally clumsy looking, the pillars being necessarily rather stout, and hence they lack the elegance of the vessels turned out in metal by experienced makers. Mr. Gosse, one of our most practical advisers on these matters, describes a mode of making vessels of potters' clay, or *terra cotta*, Mr. Dodgson, of Wigton, having used such materials with success. They are simply moulded in the usual way, all of a piece, and the required size and shape; that is to say, the bottom, the two ends, and a rude arch across to brace the ends together, the front and back being left open to receive sheets of glass. After being submitted to the fire they become as hard as stone, and may be made to look as well and last as long as real masonry; but they are enormously heavy, and can only be used in pottery districts, because their carriage for any distance would make them as expensive as metal tanks made on the spot; but their first cost, even when made to hold from twenty to thirty gallons, is but a few shillings.

The two leading makers in London are Messrs. Treggon, who made the first vessels for Mr. Warrington, Mr. Gosse, and Dr. Ward; and Messrs. Sanders and Woolcot, who fitted up the exhibition at the Regent's Park Gardens, and the tanks of the Zoological Society of Dublin. This firm has entered into the work with unusual enterprise, and has quite taken the lead in such matters, both for ornamental design and the various scientific purposes for which peculiar kinds of vessels are requisite. They have ably carried out

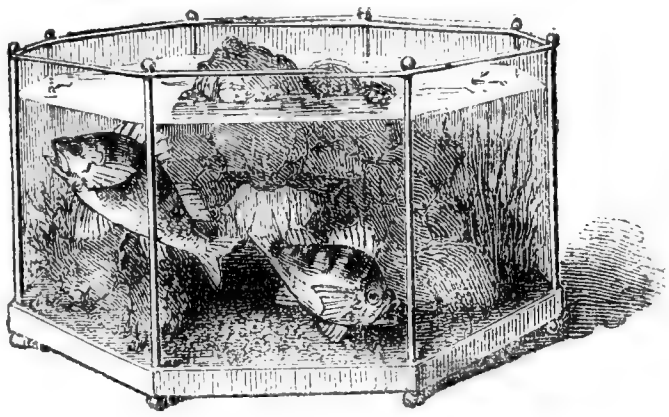


the union of the Fern case with the aquarium on the plan which I suggested three years ago in "Rustic Adornments," and any one curious in these matters may see at 54, Doughty Street, Bloomsbury, an exhibition of their tanks in use, and one very fine sample of Fern case and aquarium combined.

Among their patterns, which comprise all ordinary forms,

there are two that deserve special notice. The first is the octagon aquarium, here figured as a river tank. It makes a splendid embellishment to a conservatory or glass corridor where there is ample room for it, or as a marine tank it is just the sort of vessel for a shallow rock pool, as suggested by Mr. Warrington. Mr. Lloyd, of Portland Road, purveyor of marine stock to the aquarians of the whole kingdom, usually has one of these octagon vessels fitted with rough rockwork, and stocked with shore and deep sea crustaceans; and a most amusing sight it is to see the crabs fighting and scrambling about at the bottom, or whisking their long antennæ as they bask on the boulders in the centre like so

many old men of the sea. Indeed, any kind of stock which requires shallow water and occasional visits to the surface may be kept in these, so as to fulfil the necessary con-

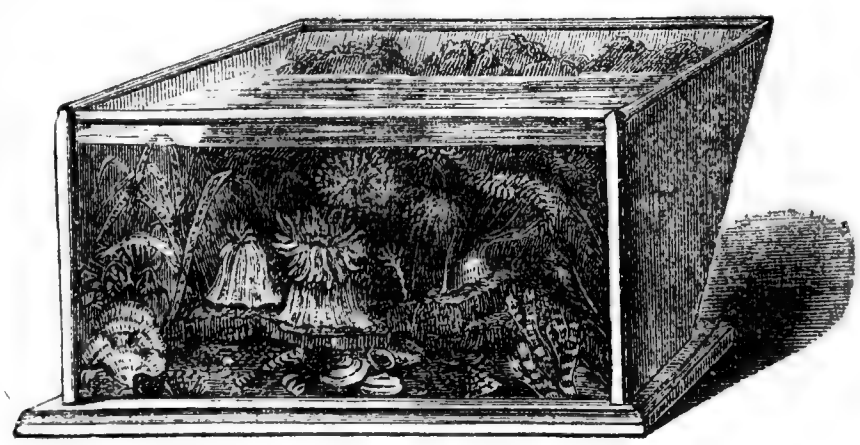


ditions, and prevent escape without need of a cover; and, by the way, a cover to a tank is, as a rule, objectionable, and should be used only on occasions when there is much dust about, and as quickly removed as possible.

The other kind of vessel to which special notice may be directed is that known as Sanders and Woolcot's improved Warrington tank. Long ago Mr. Warrington made experiments in the culture of marine Algæ, vulgarly called sea-*weeds*, and he soon discovered that an excess of light was prejudicial to the growth of most of them, and especially so to the *Rhodosperms*, or those having reddish and crimson tints, the most beautiful of all. Now, this fact renders all ordinary tanks and bellglasses which admit a full flood of daylight by no means the best for marine stock; for consider how accustomed to gloom and subdued light must be both plants and animals whose natural habitat is at any considerable depth in the sea; and, indeed, in confinement ordinary shore gatherings are averse to the constant action of full daylight on them.

To remedy this Mr. Warrington coloured those sides of his tanks that were placed next the window, and a common vessel made of glass all round may be so adapted by having the side next the window stained of a soft blue or sea green, the latter tint being most natural as well as most agreeable to the eye.

But another reason for darkening a tank used for marine objects is to prevent the rapid growth of Confervæ, which, if they once take possession of the glass, become very troublesome, and, if allowed to have their own way, soon shut out the view by rendering the glass semi-opaque. I confess that though I have stocked tanks all sorts of ways, have had them in strong light and in subdued light, stained and unstained, and of all shapes, sizes, and degrees of transparency, I never was much inconvenienced by Confervæ in a marine aquarium; but in a river vessel there always is some amount of growth, and if you attempt to prevent it by subduing the light the proper plants of the vessel cease to thrive. Not so with marine stock; even the common *Ulva* and *Enteromorpha*, not to mention *Nictophyllum*, *Griffithsia*, and others of delicate make and tint, always do best when but partially illuminated by the daylight, and such we might expect on a consideration of their origin.



Now, to imitate nature more closely than by the mere use of a coloured medium, Mr. Warrington invented a tank having an opaque sloping back, opaque ends, and with glass in the front only. This sort of vessel closely imitates a rock pool or shallow hollow on the coast, and the light can reach the water from above only just as it does in nature. But Mr. Warrington's first tanks of this description were made with the slate back sloping upwards at an angle of fifty degrees; but Sanders and Woolcot, acting on the advice of scientific experimenters and their own practical acquaintance with the management of aquaria, have adopted an angle of thirty degrees, so as to admit still less light above, render the difference in width between the top and bottom less, and allow more room proportionally for the necessary rockwork and pebbly beach which make up the imitation of a rock pool when the vessel is furnished.

Mr. Gosse has prejudiced the public against this form of vessel by describing it as "lumbering and inelegant;" but, as there is nothing like judging for yourself, I procured one of Sanders and Woolcot's make about a year ago, kept it constantly in use, frequently altered the arrangement and the nature of the stock, and have always considered it the very perfection of a tank for marine plants and animals, not only as fulfilling the conditions necessary to their health and longevity, but producing the most enchanting scene within doors it is possible to conceive; or rather, it is not possible to conceive it, but "seeing is believing." Mine is but a small one; it measures across the front plate of glass eighteen inches, from back to front across the top fourteen inches, and is nine inches deep. When carefully built up with loose blocks of granite and seaside gatherings of honey-combed stone, and with a bright beach of shells and pebbles, the tufts of brilliant vegetation and the lovely Actinia and lively Hermit-crabs make it a fairy revelation of the sea bottom—facts the most romantic in their nature dressed in wondrous tints and outlines.

Now, there are two special advantages of this form of vessel that recommend it, even if its adaptations to scientific purposes were not so perfect as they are. In the first place you can build up rockwork in any fantastic way you please; indeed, you cannot well use it without covering the whole of the slate back and sides with stones, and all these may be firmly arranged without one particle of cement, for depend upon it the less you use cement the better, for salt water will dissolve lime out of it for a long time, to the injury, perhaps destruction, of many delicate creatures. Another advantage is that a glass lid may be kept on constantly without the possibility of an accumulation of noxious gases, for the glass front and the sloping slate back are made so that their upper edges are an inch below the edges of the slate sides, and as the glass rests on these sides there is a clear open space back and front for the gases to escape as fast as they are given off from the water. I use a sheet of green glass on mine, and the soft hue which this gives to the water and its contents, combined with the subdued character of the light, is one of the secrets of its magical aspect, as well, also, as an additional aid to success in the culture of Algæ.

Common propagating glasses are largely used for aquaria on account of their cheapness, and, as they may be seen and purchased almost everywhere, but little need be said about them. Neatly turned stands are sold for their reception, and when well managed they are really elegant objects. One caution is necessary in respect to them—the larger they are the more liable are they to spontaneous as well as accidental fracture. I have used and broken a vast number, but still like them for their gracefulness and cheapness, because they enable the poor man to indulge in a pleasure which, without them, would be reserved for those of ampler means. Those of from ten to sixteen inches in diameter are the most useful; they are made as large as twenty-one inches, but the largest sizes are very apt to fly without any apparent cause, change of temperature being the most probable. I shall never forget the state of my study when I entered it one morning after a severe night frost two winters ago. A twenty-inch vessel stocked with tame dace, carp, bleak, and minnows, over the teaching of which many pleasant hours had been spent by my wife and I, had burst in the night, deluged the room with mud and water, flung fragments of glass everywhere, and left my pretty pets, that when I said "good night" to them were as jolly as bacchanals, stranded and defunct upon their muddy biers. There had been a roaring fire in the room till eleven, then from twelve till daylight it froze outside most furiously; hence the cause of the disaster was no mystery, but the mention of it may be

useful to many this coming winter. From seventeen inches to the largest size are those most liable to these mishaps, and new vessels are more likely to crack than old ones. Hence we may conclude that there is sometimes an inequality in the glass, or some slight original defect, which a slight cause may develope into a fracture. This, however, is only to be discovered by actual use, and when a large vessel has weathered a few months safely it is often as durable under even rapid changes of temperature as those of smaller size. I ought to mention that Messrs. Phillips, 116, Bishopsgate Street Without, have greatly improved the form and texture of the bellglasses for aquaria by producing them in a clear white metal and a graceful convolvulus shape, far superior to the green, heavy-looking vessels in common use, and at a very slight increase of price. This was done at a suggestion of my own, for I always felt that the production of elegant vessels for aquaria at a very low rate would produce public good; and, considering how many thousands have been sold, we may infer that not a few humble folks derive, from the expenditure of a few shillings, a source of recreation and home adornment of a kind which must instruct both head and heart, and increase that love of beautiful objects in nature out of which so many refined feelings are educed.—Shirley Hibberd.

NEW WHITE BEDDING DAHLIA.

Mr. Dodds, gardener to Col. Baker, Salisbury, sent to us a new dwarf seedling Dahlia in full bloom in the middle of October. It was cut off at the roots, and stood nearly a yard high, and over three feet in diameter. The habit is nearer to that of the old purple *Zelinda* than any Dahlia we have seen; the whole surface was covered with bloom and bloom-buds. Our opinion of it is that it is superior to any we have seen for bedding. It is a double white kind, and named *Alba floribunda nana*. Why not give it the same name in English?—*The many-flowered dwarf white.*

SUPPORTING FLOWERS.

Having observed some remarks lately in your valuable paper upon the best methods of tying up flowers I would mention one which I have seen used in America, which I think answers the purpose better than anything I have met with. It consists of a circle of stout iron wire, varying in size, according to the nature of the plant to be kept in order, from a diameter of six to eighteen inches or two feet. This is supported by three or four upright stakes of the same wire fastened to it at equal distances, sufficiently long to raise the ring eight or ten inches above the ground, being buried themselves about the same distance for steadiness. It should be painted green, which answers the double purpose of rendering it nearly invisible as well as securing the wire from rust. This apparatus costs little, is very efficient, and would probably last a lifetime if occasionally repainted.—An Observer.

BRITISH FERNS.*

We are very glad to welcome the third edition of this volume, for it is an excellent work and deserving of success. It is strictly true, as stated on the title page, that it contains numerous additions and "new illustrations." It is somewhat too scientific for those who are not conversant with botanical nomenclature. Stronger evidences of the prevailing taste for Ferns cannot be cited than that this work has reached a *third* edition, and that a *second* edition of "The British Ferns" will be published in a few days at our office. This also has fresh illustrations and additions, and the descriptions and cultural directions are very full and in popular language.

* *The Handbook of British Ferns;* being descriptions with engravings of the species and their varieties, together with instructions for their culture. By T. Moore, F.L.S. *Third Edition,* with numerous additions and new illustrations. London.

QUERIES AND ANSWERS.

GREENHOUSE GRAPES WITHERED.

"About one-third of the berries on almost all the bunches of my greenhouse Grapes have lately become withered and sour to the taste. I imagine it arises from too deep a border. They have been planted five years, and are now in full bearing. Will you be good enough to point out a remedy for this?"—One anxious to learn.

[If your Vine roots are moderately near the surface try what drainage will effect if that is defective. If the roots have got very deep, in addition to securing good drainage raise the roots, and place them within from six to nine inches of the surface, placing them in rough, fresh compost, with road drift and lime rubbish about them, to incite them to root freely. The sooner you can do this work after the Vines are cut the better. Keep the border warm and dry afterwards, and your Vines will not suffer much next year if you do the work well. See answers to other correspondents on the same subject, and see a previous volume for more directions.]

WHITE BROMPTON STOCKS DAMPED OFF.

"Can you give me an idea what is the matter with my *White Brompton Stocks?* Fully two-thirds of them are suffering from some apparent disease in the collar of the plants, or, as a sailor would say, 'between wind and water.' The part affected looks just as if it were suffering from the *Potato disease*, and smells bad when removed by a knife or thumb-nail. Not one of my *red* or *purple* Bromptons are failing; they look so strong, as though nothing could hurt *them.* This is the more curious as all three varieties were sown on the same day in the same soil, and have received exactly the same treatment up to this time, and yet I fear I shall not save a single white Stock out of the lot, as the lower leaves of those I have left are most of them turning yellow—one symptom of the disease. The *white seed* from which the plants complained of were reared was saved *last year*, the red and the purple *four years* ago. Can *this* have anything to do with it?"—Stockbroker.

[Such a case as yours never came before under our notice. The White Brompton Stock we always considered quite as hardy as any other variety. Are your plants of the white variety more dwarf than the others? Do their leaves touch the ground, covering the stems completely? because if they do the stems will be kept wet longer than if they were exposed, and consequently more liable to damp off. Your question, What are you to do to obtain a supply of bloom next Whitsuntide? is a poser. All that we can advise is that you should purchase the required number of plants early in the spring, and plant them in a good, sound, fresh loam mixed with old lime rubbish. The age of your seed has nothing to do with the disease. New seed would be more likely to produce stronger plants, though we believe old seed is more apt to give double flowers than new. We should have been glad to have given you more satisfactory reasons for the disease, and might have done so had all your Stocks been diseased. If any of our readers have had a similar disease in their Stocks we shall be glad of their opinion as to the cause and the probable remedy.]

POMEGRANATE NOT FLOWERING.

"A Pomegranate which we have planted against a south wall seven years has never flowered. What can I do to it to cause it to flower? It grows very well and looks healthy."—J. W.

["It grows very well," and something more; it grows very much too well, and as long as it continues to do so it will not flower freely for the next thirty years to come. Except for the top leading shoots three to four inches growth in a season is the right standard for the flower-spurs of the Pomegranate in our climate. Take up your Pomegranate at once, cut away three or four of the strongest roots to within one foot of the root-stock, put a barrowful

of chalk or lime rubbish in the hole, six inches of light soil over that, then plant and mulch well; next April prune the young wood close, and next August you shall have a few blooms. A Pomegranate should be half starved at the roots, and be pruned like a White Currant in April against an open wall.]

BEDDING PLANTS FOR SPRING AND SUMMER.

"Allow me, as one of the stay-at-homes, to tender my best thanks to Mr. Beaton for the article on the gardens at Kew and Sydenham, with their style of bedding during the autumn, and to beg of him to make the series complete by mentioning the plans adopted during the spring and summer on the same beds; for, of course, they cannot be bare all that time."—O. G.

[In the bedding style we have only two sets of flowers—spring flowers and bedders. You have one more essential point to learn before you can cry "quits," and that is, how would you, or how could you, manage to prevent any of the plants mentioned from Kew or Sydenham from flowering during the summer? therefore, if that could not be accomplished, why ask for the summer flowers, a superfluous precedent? Is it true that many in your neighbourhood go on from year to year *muddling* their Wallflowers, Crocuses, Tulips, Turbans, Stocks, Alyssums, Polyanthuses, Auriculas, Daisies, annuals, and all the rest of the spring flowers, by planting them "heads and tails," with no order or system, after reading three years running how much better these plants look at Sydenham, where they plant each kind "by itself," and next to it that kind which suits best? But you shall be furnished with a fourth "course" after the dessert.—D. B.]

FLOWERS FOR A VERY CONFINED TOWN GARDEN.

"My garden has the sun during the early part of the day, say till noon, excepting one small bed. The soil is heavy and black, and rather damp; of course some parts more than others. A few flowers most likely to thrive in such a place are what I am wishful to cultivate."—A New Beginner.

[If you avoid Petunias and the tall Salvias all the rest of the common bedding plants which are named in almost all our issues will suit you, or if you have no convenience for them look over our "spring flowers" and "herbaceous plants," and select for yourself from the descriptions. If we were to recommend you a dozen common plants for one of your beds many other subscribers would get these very twelve plants, and half of them would be disappointed with them, and turn round and exclaim, "The Cottage Gardener is no better than the rest of garden periodicals." Such is taste, and such is fashion in flowers.]

TIL.

"Is not Dr. Lindley wrong in stating that there is only one kind of Til? When at Hyderabad many years ago (1817) I think that I remember three or four different seeds called Til."—A Sepoy Officer.

[You are right, and Dr. Lindley wrong. In the following list of the oil seeds of India, collected by us some years since, all the Tils are mentioned.

The following table exhibits the proportion of oil contained in 100 parts of each of the varieties of oil seed examined, and also in a few of the commonest oil seeds known in commerce, to show the relative richness in this produce of the Indian seeds:—

Suffed Til—White variety of *Sesamum orientale*	46·7
Kaila Til—Parti-coloured ditto ditto	46·4
Tillee, or Black Til—Black ditto ditto. This seed yields the Sesamum or Gingelie oil, already extensively known in commerce	46·7
Bhoe Moong (Moong Phulle)—Ground nuts, produced by *Arachis hypogæa*	45·5
Wounded seeds—Obtained from the Poonnay tree, or *Calophyllum inophyllum*, sometimes called the Alexandrian Laurel—a lamp oil ..	63·7
Kurunj seeds—From the *Galedupa arborea*, or *Pongamia glabra*	26·7
Ram Til—The seeds of the Huts Ellu, or *Guizotia oleifera*, usually called *Verbesina sativa* ..	35·
Silaam—An oil seed from Nepaul	41·
Linseed—*Linum usitatissimum*	20· to 22·
Hempseed—*Cannabis sativa*	20· to 25·
Rapeseed—*Brassica napus*	33·
Poppy—*Papaver somniferum*	25· to 58·
Walnut—*Juglans regia*	50·
Colza seeds—*Brassica campestris*	39·
Mustard—*Sinapis nigra*, &c.	18· to 36·

The foregoing are not all the seeds from which oil is extracted by the natives; for, in addition to these, there are

Cotton seed oil—used, even without being expressed, for their lamps.
Castor oil—similarly used when expressed.
Argemone seed oil—a lamp oil.
Oil of *Melia azadirachta* seed—for medicine and lamps.
Oil of Cucumber seed—for cooking and lamps.
Oil of Colocynth seed—a lamp oil.
Oil of *Carthamus tinctorius* seed.
Oil of *Bassia longifolia*—used in frying cakes, &c.]

VEGETABLE CULTURE AND COOKERY.

(*Continued from page* 136, *Vol. XVIII.*)

CHERVIL.

This is a salad plant, but used also as a pot herb for its warming and aromatic properties.

The seed may be sown on any convenient piece of ground, either broadcast or in drills; if in drills they should be nine inches apart. For early crops it may be sown in February or March, and again in April and May for summer use. In the middle and end of August a sowing should be made for plants to stand the winter. If they come up too thickly they should be slightly thinned, and in severe weather hooped over. When the leaves are three inches high they may be cut for use like parsley, and this will cause them to shoot afresh, furnishing a supply of young tender leaves all the winter. The summer sowings run rapidly to seed, and do not produce a succession of young leaves as the winter crops do.

Chervil is highly esteemed as an ingredient in soups and stuffings for its fine aromatic and agreeable flavour, uniting, as it does, that of both parsley and fennel, but much superior to either.

Chervil Cream.—Boil a handful of Chervil in a glass of water for half an hour; then strain and reduce it to two spoonsful; add half a pint of cream, the same of milk, a quarter of a pound of powdered sugar, the rind of a lemon, a little coriander and orange-flower water. Boil these half an hour longer; beat up the yolks of six eggs with a small quantity of flour; pour the cream on them; mix them well; strain, and put it in the water-bath. Glaze it with sugar and the salamander.

Chervil Sauce.—After having picked a large handful of Chervil leaf by leaf put it into a small stewpan with a little of the best gravy; let it simmer till the pan becomes dry; then add as much stock as is requisite; squeeze into it a lemon, and add a little sugar to make it palatable, with some white wine.

Chervil: to Preserve.—Chervil is generally preserved with other herbs as follows:—Take of sorrel, chervil, beet, purslain, and cucumbers if in season, quantities according to your liking. Wash them well; mince and press them in your hand to squeeze out all the water. Put them into a kettle of water with some butter and salt, and boil them till the water is entirely consumed. Take them out, and when cold put them into pots; cover them with warmed butter. When you want to use these herbs put them into some stock that has very little salt in it. If they are required as for a farce or garnish boil them a minute or two in some butter; thicken with the yolks of eggs and milk. When so prepared they may be served under hard eggs or broiled fish. For sauce it must be chopped small, boiled in salt and water, and mixed with melted butter.

CHIVES.

Chives are a sort of small under-ground onion with very small bulbs, throwing up dense tufts of long narrow grass, like leaves which are used in early spring in salads and soups as young onions are. They are propagated by division of the roots, which grow in clumps, during any of the spring months and in autumn. They may be grown in any out-of-the-way corner of the garden, and when a new plantation is made a clump of six or eight roots is inserted with the dibble in rows, and about nine inches apart from each other. They will soon take root and form large patches, when they will remain several years, till they get so large as to require the same operation of division and transplanting.

(*To be continued.*)

TO CORRESPONDENTS.

PLANTS ROUND A POND (*T. A. G. S.*).—The best effect produced with a small pond is by heaping large flints or stones roughly and highly around it, filling the interstices between the flints with light rich soil, and planting in it the tall-growing hardy Ferns, such as *Pteris aquilina, Lastræa filix mas, Polystichum angulare*, &c.

CONCRETING A VINE BORDER (*N. S.*).—We never advise any one to concrete the upper surface of a Vine border. We consider a deep covering of leaves in winter and a free exposure to the sun in summer is much better cultivation. We will inquire how the concreting is done.

POTATOES (*An Amateur*).—What can we say upon the subject more than has been said by us so recently? Get of any seedsman or market gardener the early varieties we mentioned, and cultivate them as we directed.

FRENCH GARDEN (*M. M. P.*).—The diamonds 1, 3, 4, and 6 would look well in spring bulbs—a row of Crocuses three inches from the sides, and two other rows of the same across from corner to corner, dividing the beds into four quarters, and these quarters to be filled with one, or two, or four kinds of Tulips or Hyacinths, then scarlet Turban Ranunculus round the Rose beds, and 2 and 5 to be devoted to herbaceous plants, of which the white *Arabis alpina* and yellow *Doronicum Austriacum* are the best of the earliest kinds, and the easiest to manage. The plain and variegated yellow *Alyssum* are the next best, and the next *Cheiranthus Marshallii*. In summer the bed opposite the entrance of this figure should be yellow, and that on each side of it scarlet; the next opposite pair white; the next pair pink or purple; and the bed in front variegated Geraniums mixed.

APPLE (*Poor Man's Well-wisher*).—Your seedling Apple is of very good quality, as good as the generality of Apples at this season of the year, but it does not possess any merits superior to others which are already in cultivation. There are so many varieties of Apples already come into use in autumn that it is quite unnecessary to extend the number. Why not try your hand again and produce one which will keep till June or July?

NAMES OF PEARS (*J. F. M.*).—A very fine collection certainly, and well grown. We have not been able to identify the whole of them yet, as there are many not nearly ripe, but we give you the following as an instalment:—1. Marie Louise. 2. Nelis d'Hiver. 3. Easter Beurré. 4. Vicar of Winkfield. 5. Glout Morceau. 6. Marie Louise. 9. Dunmore. 11. Suffolk Thorn. 12. Beurré d'Aremberg. 15. Vicar of Winkfield. 17. Ne Plus Meuris. 22. Easter Beurré. 24. Marie Louise. 26. Marie Louise. 30. Napoléon. 33. Duchesse d'Angoulême. 34. Beurré de Rance. 37. Ne Plus Meuris. 39. Flemish Beauty. 40. Calebasse Grosse. The remainder will be noticed when ready.

NAMES OF PLANTS (*B. M.*).—*Calystegia pubescens.* (*A Constant Purchaser*).—The light blue flower is *Cœlestina ageratoides*, and the white flower the variegated *Alyssum*, now called *Glyce maritima*.

NAMES OF FERNS (*J. Walsh*).—We think your specimen is a varied form of *Woodsia alpina*, but we cannot be certain until we have seen a frond with sori upon it. (*T. G. Dutton*).—We are not sure about No. 1, but think that it is *Adiantum hispidulum*. No. 2 is *Platyloma rotundifolia*. They are both natives of New Zealand, and worthy of culture. They require a greenhouse.

NAMES OF ORCHIDS (*S. T.*).—Correspondents have been frequently warned that if they send flowers in dry paper they get so mutilated in passing through the post-office, and dry up and fade, that by the time they reach us they are almost undistinguishable. Yours are about the worst we have ever received. We are quite willing to bestow our time, and will spare no trouble in trying to find out the names of specimens sent to us, providing the sender will take due pains in packing them in a safe case in damp moss, so that they will reach us as fresh as possible. The native country of Orchids, if possible, should also be sent, as that assists greatly in determining species. As far as we can make out yours are—1. *Maxillaria*, a small species not named. 2. *Epidendrum vitellinum*, small var. 3. *Cyrtopodium maculatum*. 4. *Billbergia vittata zonata*.

CURRANT TREES (*G. W. H.*).—You need have no fear about moving them. Dig well round the roots, and lift with as good balls of earth as you can get.

ONWARD POTATOES (*H. S.*).—We will endeavour to arrange for the sale of the very small surplus of this variety.

BRUSSELS SPROUTS (*R. E. T.*).—We never knew the stems of Brussels Sprouts broken down for the purpose of making the Sprouts larger. It might promote that result, the same as ringing the branch of a Vine increases the size of the Grapes on that branch.

SMALL DRONES (*Apiarian*).—If you send us a note of your experience we will publish it, that many may benefit by it.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

OCTOBER 28th and 29th. DORSETSHIRE. *Sec.*, G. J. Andrews, Esq., Dorchester. Entries close October 14th.

NOVEMBER 25th and 26th. GLOUCESTERSHIRE. *Sec.*, Mr. E. Trinder, Cirencester.

NOVEMBER 30th, and December 1st, 2nd, and 3rd. BIRMINGHAM. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

DECEMBER 8th and 9th. CREWE. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

DECEMBER 16th and 17th. NOTTINGHAMSHIRE. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

DECEMBER 30th and 31st. BURNLEY AND EAST LANCASHIRE. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

JANUARY 1ST, 1858. PAISLEY. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

JANUARY 4th, 1858. KIRKCALDY POULTRY AND FANCY BIRD SHOW. *Sec.*, Mr. Bonthron, jun., Thistle Street.

JANUARY 9th, 11th, 12th, and 13th, 1858. CRYSTAL PALACE. *Sec.* Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 19th, 20th, 21st, and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

FEBRUARY 3rd and 4th, 1858. PRESTON AND NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, Preston.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

RAILWAY DELAYS.—UNION OF HAMBURGH AND POLAND CLASSES.

IT seems to me very unreasonable that the railway company should delay transmitting to their respective homes part of the birds from the *Worcester Poultry Show*. You state in your "CHRONICLE" that the birds were at the station by half-past seven o'clock P.M. on Friday. Now, my birds and part of Mr. Dixon's did not arrive here till Sunday morning. Now, I think the length of time after the packing and delivery of the birds at the station and the arrival of them at the Bradford station inflicts an unnecessary punishment upon the birds that every amateur ought to protest against; and I may as well mention that I have heard several complaints amongst the exhibitors of Hamburghs, who would, no doubt, have exhibited at the Worcester Show had the Hamburghs been shown each in its respective class, instead of making four classes into two. They think (the Hamburgh exhibitors, and justly too) that it was unjust to give three prizes to the coloured Dorking and Spanish classes, and at the same Show make the four Hamburgh classes into two. It is also unjust to exhibitors of Polands to class Gold and Silvers together, and whatever may be a man's qualifications as a Poultry Judge it is placing him, to say the least of it, in a very unpleasant position, for mistakes are easily made even where good birds are shown each in its own class; but where two classes are shown together I take it to be no easy matter to determine which is the best. I hope never to see them classed together again; and I have no doubt, had they been classed in the ordinary way, there would have been a greater number of entries in the Hamburghs, and have given better satisfaction. I shall make no apology for the above remarks, as they represent the opinions of many of your readers.—JOSEPH HOLLINGS, *Horton, Bradford, Yorkshire.*

BRIDGNORTH POULTRY SHOW.

THIS was held on the 8th inst. The entries of poultry were not quite so numerous as those of last year, but there were some very excellent specimens amongst them. The Viscount Newport sent some pens of *Game* birds which were much admired; G. M. Kettle, Esq., was also an exhibitor. Mrs. J. Pritchard also sent a pen of fine *Ducks*, in which class Mr. G. Pritchard was also an exhibitor. Mr.

Haslewood, of Bridgnorth, was, as usual, a large exhibitor of poultry, and took a number of prizes in the various classes; and Mrs. Ellison, of Oldbury, near Bridgnorth, took a prize, and was highly commended for several pens. Some fine specimens of the "Silky fowl" and others of the Brahma Pootra attracted some attention. A pen of the former exhibited by Mr. Peters, of Birmingham, took the first prize.

ALL CHICKENS OF 1857.

Cochin-China (any colour except White or Black).—First, Mr. G. C. Peters, Birmingham. Second, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol.

Cochin-China (White or Black).—First and Second, Mr. G. C. Peters, Birmingham. Highly Commended, Mr. W. Dawson, Hopton Mirfield, Yorkshire.

Dorkings.—First, Mr. J. Whittington, Wootten Wawen, near Henley-in-Arden. Second, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Highly Commended, the Countess of Dartmouth, Patshull.

Game.—First, Mr. E. Archer, Malvern. Second, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Highly Commended, Mr. E. W. Haslewood Bridgnorth.

Hamburghs (Golden-pencilled).—First, Mr. E. Archer, Malvern. Second, Mr. J. Whittington, Wootten Wawen, near Henley-in-Arden.

Hamburghs (Golden-spangled).—First, Mr. J. Bamforth, Holmfirth, near Huddersfield. (No Second.)

Hamburghs (Silver-pencilled).—First and Second, Mr. E. Archer, Malvern. Highly Commended, H. Corbett, Esq., Aston Hall, Shiffnal.

Hamburghs (Silver-spangled).—Second, Mrs. Ellison, Oldbury Lodge, Bridgnorth. (No First.)

Polands (Black with White Crests).—First, Mr. J. Bamforth, Holmfirth, near Huddersfield. Second, Mr. E. W. Haslewood, Bridgnorth.

Polands (Golden-spangled).—First and Second, Mr. E. W. Haslewood, Bridgnorth.

Polands (Silver-spangled).—First and Second, Mr. E. W. Haslewood, Bridgnorth. Commended, Mr. J. Whittington, Wootten Wawen, near Henley-in-Arden.

Spanish.—First, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, Mr. C. T. Nelson, Birmingham. Commended, Mr. G. Lamb, Tettenhall Wood, near Wolverhampton; Mr. W. Dawson, Hopton Mirfield, Yorkshire.

Bantams.—First, T. H. D. Bayley, Esq., Ickwell House, near Biggleswade, Bedfordshire. Second, Mr. G. C. Peters, Birmingham.

Any other variety.—First, G. M. Kettle, Esq., Dallicott House, Bridgnorth (Cuckoo fowls). Second, Mr. G. C. Peters, Birmingham (Silky fowls).

Turkeys (any age).—First, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, Mr. J. Wood, Bury Hill, Droitwich.

Geese (any age).—First, H. G. Lloyd, Esq., Manor House, Abbott's Leigh, near Bristol. Second, Mr. E. B. Reece, Harpsford, Bridgnorth.

Ducks (White Aylesbury).—First, Mr. H. Smith, jun., Sutton Maddock. Second, Mr. G. C. Peters, Birmingham. Highly Commended, Mrs. Pritchard, Hill Farm, Bridgnorth; Mr. W. T. Hill, New Inns, Claverley; G. Pritchard, Esq., Astley Abbotts. Commended, Mr. H. Smith, jun., Sutton Maddock.

Ducks (Rouen).—First, H. G. Lloyd, Esq., Manor House, Abbott's Leigh, near Bristol. Second, Mr. C. Ballance, Taunton. Commended, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol.

Ducks (any other variety).—First, Mr. G. C. Peters, Birmingham. Second, Mr. C. Ballance, Taunton.

EXTRA STOCK.

Dorking Cock and Hen.—Highly Commended, Mrs. Ellison, Oldbury Lodge, Bridgnorth.

PIGEONS.

TOYS.

Variety 3.—THE STARLING-BREASTED PIGEON (*Columba sturnus*).

French.	*German.*
Pigeon Étourneau.	Die Staarhälsige Taube.

The Starling-breasted Pigeon, or, as it is usually called, the Starling Pigeon for shortness, is the same size and form as the common Dovehouse Pigeon, and equally quick and light in flight. They field well, that is to say, are well adapted to find their own living in the fields. They are smooth-headed, and generally clean-footed. Colour usually black, though occasionally blue or red. The eyes are bright gravel-coloured. Across the wings are two white bars. On the lower part of the front of the neck is a crescent-shaped band of about an inch wide, the feathers of which are tipped with white, from which they derive their name. A sub-variety which is more esteemed has turned crowns, and the top of the head white like the "Priest Pigeons," in which variety the upper mandible must be white, and the head clean white, the line of demarcation passing from the corners of the mouth across the eyes, and inside the turn at the back of the head. In the young of this sort the white markings are of a kite colour till the first moult, and as the bird advances in age they become larger and more irregular.

Variety 4.—THE SWISS OR HALF-MOON PIGEON (*Columba Helvetiæ*).

French.	*German.*
Pigeon Suisse.	Die Schweitzer Taube.

The Swiss or Half-mooned Pigeon reverses the colouring of the foregoing. The ground colour is so light that it is almost white, only having a slight mealy shade. Across the wings are two coloured bars, and on the breast a crescent-shaped band of the same colour, from which reason they derive their second name of Half-moon Pigeons. They are the size of the common Dovehouse Pigeon, and as light and active in flight. The feet are mostly heavily feathered. Those I have seen were smooth-headed, and of a mealy shade, with red or yellow bands; but MM. Boitard and Corbie, the French writers, mention many other colours which they class as Swiss, and among them birds of beautiful plumage.—B. P. Brent.

OUR LETTER BOX.

Suabian Pigeons.—I am so little among amateurs at present that I fear I cannot give your "Old Subscriber" the information he requires, but Mr. J. M. Eaton, of 7, Islington Green, London, who is Chairman of the Southwark Columbarian Society, had some Suabian Spangles in his possession when I was last in town, and if he has parted with them will, in all probability, know where to get some. The *Victoria* is merely a variety of Porcelain, I think the Walnut-coloured.—B. P. B.

Work on Pigeons (*J. F. F.*).—The best at present is by Mr. Eaton, but when Mr. Brent has finished his notes now publishing in our columns they will be published in a small volume, and will be the cheapest and best yet published.

Worcester Show.—The Dorking commendations at this Show were—Highly Commended, Rev. S. Donne. Commended, Mr. Titterton, Birmingham; Rev. S. Donne; Mr. Wakefield, Malvern.

Injured Wattle a Blemish.—"Would a young Hamburgh cockerel be disqualified from taking a prize on account of its wattle having been torn in fighting, though so nearly recovered that it is scarcely perceptible except when closely examined?"—C. M. J.

[The loss of a wattle would be a disadvantage in close competition, but an accident such as you describe cannot be a disqualification. As a perfect bird does not always win *easily* we need hardly advise you not to send one with any drawback if you can avoid it.]

Change in the Colour of the Legs of Polands (*A Constant Reader*).—Changes in the colour of the legs of fowls occasionally occur without any apparent cause, and there is no means of guarding against or reversing them. The causes of alterations of colour in domesticated animals are but little understood by scientific observers, and it is worse than useless to offer decided affirmations on subjects respecting which we are ignorant. The circumstance that fowls with painted legs are disqualified at some exhibitions, and receive first prizes and are pronounced perfect at others, is simply dependent on the relative integrity or intelligence of the respective adjudicators.—W. B. T.

Hamburgh Cockerel (*A Beginner*).—Select the sickle-feathered one. Hen-feathered Hamburghs seldom take prizes.

LONDON MARKETS.—October 26th.

COVENT GARDEN.

Very trifling alterations since our last. The fruit trade is heavy in all its branches, and the northern markets being pretty well stocked, it is only in very few instances that dealers are able to clear out. *Pears* now comprise *Gansel's Bergamot, Marie Louise, Louise Bonne, Brown Beurre, Duchesse d'Angouleme, Crasanne,* and *Belle de Flanders*. *Potatoes* still come to hand much affected with the blight, which appears, both by report and by sample, to prevail almost everywhere more or less.

POULTRY.

Trade is a shade better, and if the weather were colder we have no doubt we should have to report a slight improvement in the prices of poultry.

Large fowls	4s. 0d. to 5s. 0d. each.	Grouse	2s. 3d. to 2s. 9d. each.
Smaller do.	3s. 6d. to 4s. 0d. ,,	Pigeons	9d. to 10d. ,,
Chickens	1s. 9d. to 2s. 6d. ,,	Rabbits	0s. 0d. to 1s. 4d. ,,
Geese	6s. 0d. to 7s. 0d. ,,	Wild ditto	10d. to 1s. 0d. ,,
Ducks	2s. 9d. to 3s. 0d. ,,	Pheasants	2s. 0d. to 3s. 0d. ,,
Hares	2s. 3d. to 2s. 6d. ,,	Partridges	10d. to 1s. 4d. ,,

Turkeys.....6s. to 8s.

London: Printed by Hugh Barclay, Winchester High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietor, at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—October 27, 1857.

WEEKLY CALENDAR.

D M	D W	NOVEMBER 3—9, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
3	Tu	Golden Rods.	30.212—30.179	53—30	S.W.	—	59 a. 6	28 a. 4	4 a 50	17	16 18	307
4	W	Annual Stock-gilliflower.	30.311—30.198	52—30	S.W.	—	VII	26	5 36	18	16 17	308
5	Th	Gunpowder Plot, 1605.	30.411—30.359	49—22	E.	—	3	25	6 39	19	16 15	309
6	F	Double Colchicum.	30.558—30.455	47—31	N.	—	5	23	7 58	20	16 13	310
7	S	Heartsease.	30.570—30.535	49—37	N.E.	—	6	21	9 24	21	16 10	311
8	Sun	22 Sunday aft. Trinity.	30.379—30.119	46—29	S.W.	15	8	20	10 49	☾	16 5	312
9	M	Pr. Wales born, 1841.	30.089—29.833	51—31	S.E.	01	10	18	morn.	23	16 0	313

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 52.1°, and 37.5°, respectively. The greatest heat, 63°, occurred on the 5th, in 1852; and the lowest cold, 18°, on the 9th, in 1854. During the period 93 days were fine, and on 103 rain fell.

THE HORTICULTURAL SOCIETY'S FRUIT SHOW.

Experimental gardening is, undoubtedly, the back bone and marrow of our craft. The gardener who makes no experiments is not worth salt to his porridge, and yet the old Horticultural Society could not, or would not, comprehend the drift of the adage till all their salt and porridge were gone. But the new Council took to the experimental way at once, and their grand experiment about a Fruit Show upon an extensive scale has turned out, like the old play of "A Bold Stroke for a Wife," to the credit of all concerned, and to their heart's content, and, I believe, to that of the exhibitors, which is more than the reporters can expect or look for. But a great rivalry at Willis's has never yet been reported to the life. The "language of the eye" and the electric sparks from the playthings of the insidious god are beyond the powers of the pen and pencil. They must be seen and felt to be appreciated and understood. So also must be the realities of a magnificent display of fruit like the present.

The attendance of visitors was more fashionable and much more numerous than the nature of this grand experiment could lead the Council to expect. The falls of alliances, of brotherhood, and of kindred have often been decided at Willis's Rooms, but never more upon the "merits of the case" than on this occasion between the French, British, and American exhibitors; and the London press was never more "off the scent" than in supposing that the three races competed against each other on these boards, or farther from the garden-gate, when exulting in the victory of old England. The English competed only against themselves, the Scotch, and the Irish; the French against French produce; and Boston against the United States of America. It is true that Mr. Webber, Mr. Solomons, and other Covent Gardeners, have the gift of procuring better-looking Pears and Apples from France, and finer *Newtown Pippins* from America, than we can boast of in England; but in this competition the most remarkable thing to report is, that both the French and American competitors fell far and signally short of the mark. Even the "Heart of Midlothian" in Scotland sent up Pears superior to those of Boston in America, and Nantes in France.

I heard of only two complaints. A canny Scotchman *sticks* his labels on his fruit, at which the English revolt as much as the Indian at greased cartridges. A sense of itching creeps over an Englishman at seeing sticking-plaster, no matter what it is made of, or for what purpose; and the second plaint was anent the schedule, which unfortunately, but inadvertently, or by downright carelessness, included all kinds of *Black Hamburgh* Grapes *except my Grapes* as one kind only, contrary to the old fashion, and without telling the contrary. Friend A. was once knocked on the head for putting up the *Mill Hill Hamburgh* against the old *Hamburgh*. Friend B. takes the hint, and puts his *Hamburghs* and all in the miscellany, and my Grapes were commended on all sides for their respectability; but friend C. sends *Mill Hill Hamburgh*, not to compete with the old *Hamburgh*, for fear of a lump, but among "other black Grapes;" and it seems *no kind* of Hamburgh was contemplated in that division. The Judges had no choice in the matter, and "wrong entry" was all they could record. If the *Mill Hill* had been pitched against the common *Hamburgh*, another exhibitor would have to sing out most lustily, as there is a great difference in the two kinds. There was no class or prize for outdoor Grapes, but I am abundantly satisfied, as I shall show next week.

The largest Pear was from Wales, *Neil's Pear*, but size is its only merit. The highest-coloured Apples came from France. The worst Pears were from the United States. The most useful Pear in the competition was *Knight's Monarch*, a dish of which from Her Majesty was just fit for table, and a large shelf of it in a fruit-room would furnish a dish or two every week from October to the end of April. It is also one of the hardiest and best bearers of our dessert Pears. *Marie Louise* and *Beurré Bosc* were the two most generally ripe Pears in collections. *Van Mons Léon le Clerc* and *Beurré Clairgeau* were the two best-looking Pears "in season." But what surprised me more than the rest was the beauty and size of the Pears from Liverpool, the last place in the kingdom where I should look for any good fruit out of doors.

The following Pears were the bulk over the whole exhibition, beginning as they come to table:—*Marie Louise, Beurré Bosc, Seckle, Hacon's Incomparable, Winter Nelis, Beurré d'Aremberg, Duchesse d'Angoulême, Passe Colmar, Ne Plus Meuris, Easter Beurré*, and *Beurré Rance*. You could pick two or three of these out of almost every collection there; and the same may be said of kitchen kinds, *Uvedale's St. Germain* and *Catillac*, with their varieties, being the bulk. The American Pears looked as if they were from the sea-shore to the west of Liverpool, where they were starved in sand, roasted by a burning sun, and salted by the sea spray. The Pears from Nantes were much better, but not nearly so good as our English Pears.

The same tale runs all over the Apples, which were more numerous than the Pears, and need not be repeated. The like in number, size, and colour were never seen before in one place.

There were about sixty Pine Apples. I counted fifty-five, but missed some. The heaviest *Queen* was six pounds six ounces.

The Grapes were all magnificent, but not in very many hands, nor in such numbers in proportion to the rest of the fruit. *Muscats* and *Hamburghs* carried the day. Melons were very good indeed in the first prize. Peaches good also, but only a few dishes. Raspberries strong. Alpine Strawberries not many. Lemons and Oranges of sorts, not many, but very good, particularly the small Oranges on plants in pots from Lord Boston. Currants plentiful and capital. Plums very few and good.

The new fruit of *Eugenia Ugni* (uni) turns out to lose its right colour of deep purplish red to a pale berry under glass, and very likely loses its true flavour in the same way; but, on the other hand, one never meets with three gardeners together who will agree entirely about the flavour of one single fruit in the country. Seven of the best Grape growers in the country have given me seven distinct names for my black Grapes in Willis's Rooms. Four of them tasted the berries in the presence of each other, and before five other first-rate gardeners and two first-class nurserymen, of whom Mr. Veitch was one; therefore, unless public opinion first settles the merits of a new fruit, it is in vain to look to a committee of gardeners for a definite verdict. They all said my Grapes were most excellent, but some of them said so purposely to please me as they thought — a kind of compliment with which all gardeners are more or less acquainted. In the Experimental the fruit of *Eugenia Ugni* ripened out of doors by the middle of September. The two plants I had from Mr. Low, of Clapton, were rather under potted, but were well supplied with soft rain water, and no more. The fruit was as dark as that of a ripe Cranberry, but we did not decide on the flavour, as the fruit was in demand for dissection by two or three botanical students belonging to the establishment.

There were two kinds of *Pomegranates* among the foreign fruit, the common yellow, and the uncommon deep purple. British gardeners, however, know little of this. Mr. Fortune told me he had seen several other kinds of Pomegranates. The finest Medlars in the country were there, and also the "Prickly Pear" of the south of Europe—a very wholesome fruit, which makes a beautiful dish in the dessert. This is the fruit of the common *Opuntia vulgaris*, and the "Indian Fig" of ordinary travellers. There were also purple Guavas and Shaddocks from Sion House, together with the rarest fruit in England, the Chocolate fruit, which is the chief ingredient in "that excellent cup of chocolate." The Chocolate tree, *Theobroma cacao*, is a most beautiful-leaved tree, with flowers as insignificant as those of the Black Currant, and not unlike it. The flowers come in short dense clusters from the old wood, and the fruit is about six inches long, pointed at both ends, otherwise egg-shaped, and slightly ribbed. The shell is of a light colour when ripe, and splits open at the end farthest from the stalk. The seed or fruit is inclosed in a white pulp, from which strong whiskey is distilled in South America; but you should consult Hogg's "History of the Vegetable Kingdom," or rather study it like a young gardener. Botany, and all about classes, and orders, and arrangements of plants, are as nothing compared to a knowledge of the uses and history of plants, and I shall give an instance from this Show.

I saw a native fruit plant from Scotland downstairs from a first-rate nurseryman, the *Breilack* of the Highlands, and the Cowberry of English moors, *Vaccinium vitis idæa*. The crimson berries are as soft as Red Currants, and as "tart" as a sloe, but most excellent for sore throats. I picked some of them, and swallowed them with a relish which frightened a gentleman near me, who suspected that I poisoned myself intentionally, and declared that he would not taste a strange fruit for the world; but he was studying for his degrees at Oxford or Cambridge while I was running after grouse "o'er the moor among the heather." Besides, I read the "History of the Vegetable Kingdom," and could tell the healthy and unhealthy fruit in all the orders of plants from marks on the leaves or branches, or from the flowers; and if he and I were cast on an island he might starve if he chose, or poison himself by mistaking the right fruit, but I would live like a prince on the wholesome fruit till I got something better; but people do not learn common things like that before they take their degrees.

But in this room "below stairs" there was another show of more common things. Mr. Rivers had a large assortment of fruit to show this and that kind of benefit from such and such treatment of the trees; and Mr. Ingram, gardener to the Duke of Rutland, at Belvoir Castle, who took his degrees at Frogmore, near Windsor, had a collection of fruit to show what influence different soil and climate have upon the bearing of the great question before us; and the Messrs. Lee, of Hammersmith, had upwards of 100 specimens of the different kinds of fancy Gourds. Some of them were extremely curious, some very pretty, some smooth, some rough, some warted, some straight, some crooked, some long, some short, some quite round, some wholly flat, some not bigger than a Pippin Apple, and some as big as the "king of a' the pudding race"—a Scotch haggiss: Snakes, Custards, and Turk's Caps, but *not* that exquisite Vegetable Marrow lately mentioned. But room fails me, and those I left behind, and others whom I shall be obliged to pass over for the present, must take the will for the deed till we meet again.

All I shall say about plants is, that we had a new kind of *Cypripedium*, with leaves like those of *venustum*, and flowers like those in the *villosa* section, without being villous, or shaggy with hairs, from Mr. Williams, gardener to A. Fairlie, Esq., of Liverpool—a very nice thing. Also a fine plant in bloom of that newish bulb or bulb-like plant, which makes me blush at British botany every time I see it. This beautiful plant, like my beautiful Grapes, is beyond the strength of the British lion to make out its right name; I mean the *Imantophyllum miniatum* of Hooker, and *Vallota miniata* of Lindley, neither of whom hit the right mark, or say the "private mark" of that beautiful flower. Also a handsome contribution of fine-leaved plants, chiefly, as I understood, from the Hammersmith and Exotic Nurseries of the Messrs. Lee and Veitch.

We shall now begin with the prize fruit as I began in the room long before the Judges were admitted. The *Pears*, being the most difficult, I took first in order, and gave my decided opinion in favour of those from Queen Victoria above all that were in the room, no matter whence. Out of the twelve dishes Mr. Ingram had six or seven dishes ripe for table. Thus—*Marie Louise*, *Beurré Bosc*, and *Beurré de Capiaumont*, a brother and sister, as it were, *Bosc* being he, and bigger than *Capimo*, as she is pronounced; *Beurré Diel*, beating all the continental Diels; *Seckle*, a very pretty little red Pear; *Hacon's Incomparable*; *Van Mons Léon le Clerc*, a magnificent Pear; and *Knight's Monarch* aforesaid; *Brougham* Pear "coming in," and keeps three weeks; *Glout Morceau* coming in also; *Vicar of Winkfield*; and *Beurré Rance*, the latest of the Pears.

Mr. Tillyard, gardener to Lord Eversley (late Speaker), took the second prize in Pears. He had five kinds ripe, and one kind nearly so. Thus—*Beurré de Capiaumont*, *Hacon's Incomparable*, *Beurré Diel*, *Marie Louise*, *Calibasse*, *Louise d'Orléans*, *Winter Nelis*, *Duchesse d'Angoulême*, *Forelle*, or Trout Pear, *Ne Plus Meuris*, and *Beurré Rance*.

The third prize was given to Mr. Harris, Oatlands Palace Gardens, who had three ripe dishes, namely, *Marie Louise*, *Beurré Diel*, and *Duchesse d'Angoulême*, his other best being *Chaumontelle*, *Ne Plus Meuris*, *Winter Nelis*, and *Mons. le Curé*.

Mr. Tillyard was first for single dish of dessert Pears; second, Mr. Fowle, gardener to G. W. Cooke, Esq., Beesthrope Hall, Newark. Several collections of twelves were highly commended, and they were nearly as good as the above—only a shade of difference, if that, as they stood. Mr. Sorley, gardener to E. Zwilchenbart (pronounced *swilsenbart*), of Liverpool, had a collection which surprised many of the London gardeners. They were *Marie Louise*, *Duchesse d'Angoulême*, *Beurré Diel*, *Easter Beurré*,

Brown Beurré, and *Beurré Rance, Glout Morceau, Passe Colmar, Ne Plus Meuris, Old Colmar, Winter Nelis*, and *Poire d'Auch.*

But Mr. Sorley took the first prize for the collection of sixes with *Marie Louise, Beurré Diel, Brown Beurré, Winter Nelis, Easter Beurré*, and *Glout Morceau.* The second, Mr. Wood, gardener to R. Scott Murray, Esq., Danesfield, Great Marlow. He had three ripe kinds—*Van Mons Léon le Clerc, Beurré Diel*, and *Duchesse d'Angoulême*, and the rest equally fine. Mr. Fowle followed, having two dishes ripe out of the six, *Marie Louise* and *Glout Morceau.* Mr. Snow had in his twelve a second dish of *Forelle, Glout Morceau, Marie Louise, Winter Nelis, Old Colmar, Crasanne, Passe Colmar, Beurré Diel, Easter Beurré*, and *Beurré Rance.* In Mr. Whiting's (of Deepdene) collection six kinds were ripe—*Beurré Bosc, Duchesse d'Angoulême, Marie Louise, Beurré Diel, Croft Castle*, and *Strobden Court.* Mr. Frost, gardener to E. L. Betts, Esq., Preston Hall, Maidstone, had five dishes ripe—*Duchesse d'Angoulême, Van Mons, Colmar, Eliza Heyest*, and *Colmar Deschamps.*

Mr. Hope, gardener, West Ham, had five kinds ripe as above. Messrs. Lane and Son, the great Rose growers, had a fine collection of new Pears. Mr. Spivey, Hollingbury Gardens, had six kinds ripe. Mr. Carmichael, gardener to the Countess Dunmore, had four kinds ripe. Mr. Selkirk, gardener to W. F. Yeyes, Esq., three kinds ripe. Mr. Chester the same. Mr. Anderson, Oxenford Castle, Lothians, had a dozen fine kinds, the best from Scotland, and many others in the same superior style.

The competitors with collections of sixes were equally numerous, and their fruit was equally good, but not much different from the kinds already mentioned. Mr. Cox, gardener to W. Wells, Esq., of Redleaf, had a splendid sample of one of our handsomest Pears, the *Beurré Clairgeau.* Mr. Carmichael, gardener to the Countess Dunmore, had the best *Napoléon* there. Mr. Hope, gardener to Miss Gurney, West Ham, Essex, had the best *Louise Bonne of Jersey.*

Mr. Tillyard, Mr. Fowle, and Mr. Snow took the first, second, and third prizes with single dishes of Pears; that from Mr. Fowle was *Marie Louise* from a standard. There was a fine dish of the *Duchesse d'Angoulême* from Mr. Brown, Rockingham Castle; ditto *Beurré Bosc*, from Mr. Ingram, gardener to J. J. Blandy, Esq.; ditto *Doyenné Gris*, from Mr. Snow; a fine large light-coloured Pear, named *Hilton Seedling*, from Mr. Hilton, gardener to J. N. Hibbert, Esq., Chafford Park, Bucks.

The kitchen Pears were magnificent. Mr. Ingram and Mr. Snow had *Wradels; Warden* from Mr. Frost; *Gratiole* from the Messrs. Lane; a ripe *Catillac Gros*, Mr. Hilton. The rest were more common.

In a collection of twelve Pears from Mr. Hovey, nurseryman, Boston, United States, nine were ripe or too far gone. *Seckle* was quite gone, but the skin was sound. His *Beurré Clairgeau* was about one-half the size of that from Mr. Cox, of Redleaf, but was much redder on the side next the sun. His *Beurré Bosc* came the nearest to ours; his *Duchesse d'Angoulême* about half the size of ours in England; and so was his *Van Mons Léon le Clerc*, and his *Glout Morceau* was almost round, and like a stinted English growth. The rest were *Swan's Orange, Beurré d'Anjou, Beurré Gris d'Hiver, Beurré Superfin* (said to be the finest of all Pears when "caught in time)," *Paradise of Autumn*, and *Passe Colmar.*

Mr. Solomons, of Covent Garden, took the first prize for twelve kinds of French Pears, and they were very fine. Those from Nantes were not one-fourth so good; but some of the names were not correct, as *Magnifique* for *Beurré Diel; Gelogine* for *Gilogil*, a good kitchen Pear; *Belle Andrine* for *Vicar of Winkfield*, and so forth. Covent Garden, therefore, is not the best authority for such names. In Mr. Solomons' collection of sixes *Glout Morceau, Winter Nelis, Brown Beurré, Marie Louise*, and *Duchesse d'Angoulême*, were much on a par with those of Mr. Ingram, of our Royal Gardens.

Mr. Hovey's sixes were *Marie Louise*, quite russety; *Gustave Burgoyne*, much gone; *Edwards's Elizabeth*, a very small round Pear; *Poiteau*, small greenish Pear; *Sheldon*, a small, round, russety Pear; *Winter Nelis*, very russety; *Louise Bonne of Jersey*, half the size of ours; *Colmar d'Aremberg*, his largest, in the way of *Duchesse d'Angoulême.* His single dishes were *Seckle*, gone, and half the size of ours; *Beurré Langilier*, medium size; and *Urbaniste*, fair specimens. Among his *American Apples* were *Rhode Island Greening*, hard as fate; *Porter*, a whitish oval kind; *Northern Sweet*, hard, but as sweet as sugar; *Cogswell*, a good-looking, small-streaked fruit; *Baldwin*, which had a first prize, is not unlike our *Norfolk Beaufin*; and *Ressbury Russet*, which reminds me of the Messrs. Rollisson's *Rex* Begonia, which was there also.

English Apples.—Single dishes of kitchen sorts, first prize, Mr. Frost, Preston Hall, for *Dumelow's Seedling*, splendid fruit. Second prize, Mr. Whiting, Deepdene, *Bedfordshire Foundling.* (Oh, what a glorious dumpling it would make!) Third prize, Mr. Wells, Holme Lacy (is this Holme Lacy near Hereford?), with *Blenheim Pippin.*

Dessert Apples.—Best single dish, Mr. Simpson, gardener to Lady Molyneux, Stoke Farm, Slough, with *Cox's Orange Pippin*, beating the *Ribston Pippin* by one whole length; second prize, Mr. Hope, gardener to Miss Gurney, West Ham, Essex, with *Ribston Pippin*; and third prize to Mr. Brown, Rockingham Castle, with *Wyken Pippin*, and also to Mr. Carmichael, gardener to the Countess of Dunmore.

The next grand trial of strength was for twelve kinds of dessert Apples, and Mr. Snow was first; Mr. Ingram, Royal Gardens, second; and Mr. Cox, Redleaf, third. Never was there such a race at Ascot. Mr. Snow mounted his favourite Apple, *Golden Noble*, at the head of his lot; then *Normanton Pippin, Selina, Old Golden Pippin, Court Pendu Plat, Blenheim Pippin, Hanwell, Royal Russet, Spanish Pearmain, Bull's Golden Reinette, Scarlet Nonpareil*, and *Fearn's Pippin.*

Mr. Ingram had *Cox's Orange Pippin, Scarlet Russet, Sykehouse Russet, Fearn's Pippin, Scarlet Nonpareil, Blenheim Pippin, Jefferson, Small's Golden Pippin, Rosemary Russet, Old Nonpareil, King of Pippins*, and *Taylor's Seedling.*

Mr. Cox had *Blenheim Orange* or *Pippin*, fine, *King of Pippins, Alexander, Old Nonpareil, Ribston Pippin, Claude's Northern Greening, Yorkshire Greening, Golden Knob, Norfolk Paradise*, and *Winter Queening.* Then followed Mr. Harrison, Oatlands; Mr. Figg, Roehampton; Mr. Parsons, Danesbury, Nelwyn, Herts; Mr. Divers, Staplehurst, Kent; Messrs. Lane, Berkhampstead; the Horticultural Society; Messrs. Mortimer, Wood, Saul, Spivey, Newton, Frost, Whitby, Fox, and others, all with collections of twelve kinds of dishes of dessert Apples.

Pine Apples in one row down the centre of one of the long tables, besides a lot of flank ones in the collections of Mr. Solomons and Mr. Webber, of Covent Garden; the latter took the first prize, and the other the second, for collections of the different kinds of fruit. Mr. Spencer, of Bowood Gardens, took the first prize for the best three Pines—not weighed or named; Mr. Page, gardener to W. Leaf, Esq., Park Hill, Streatham, second prize, with *Emil*, 6½ lbs.; *Globe*, 5¼ lbs.; and *Queen*, 4½ lbs.; and third, Mr. Bray, Peak Gardens, Sidmouth, two of which were *Cayenne* Pines; and Mr. Ogle and others were much commended. For single specimens, first, Mr. Temple, gardener to G. S. Clark, Esq., Dowlais House, Glamorgan, a *Queen* Pine, 6 lbs. 6 ozs.;

second to Mr. Williams, gardener to A. Fairlie, Esq., Liverpool, with a *Black Jamaica*, 4 lbs. 14 ozs.; and third to Mr. Bray, Sidmouth, for a *Ripley Queen*, 4 lbs. 12 ozs., with lots and lots of commended ones.

Grapes.—Mine were good, and all the rest were splendid or superexcellent. The first prize for *Muscats* (three bunches) was won by Mr. Drewett, gardener to Mrs. Cubitt, Denbies, Dorking (he is a new man to my notes). He won by the superior colouring of his *Muscats*. They were the finest-coloured Muscats I ever saw exhibited. The second prize to Mr. Hill, the well-known hero at Keele Hall Gardens, Staffordshire, belonging to R. Sneyd, Esq., author of the "shot-silk bed." If Mr. Hill had "touched" his *Muscat* to the same shade as Mr. Drewett we should have Sebastopol over again; and the third prize for *Muscats* went to Mr. Little, gardener to A. Darby, Esq., Stoke Court, Slough. *White Grapes* not *Muscats*, three bunches, first prize to Mr. Fleming, of Trentham, with splendid bunches of *Tokay;* second to Mr. Drewett; and third to Mr. Tillyard, for a large grizzly kind of Grape I never saw before. Best three bunches of *Black Hamburghs*, first prize, Mr. Hill aforesaid, and some wag put my Grapes up close to these, the finest there, from the miscellany table; second prize, Mr. Tillyard; and third, Mr. Snow. "Other black kinds," first, Mr. Hill again; second, Mr. Allport, gardener to H. Ackroyd, Esq., Doddington Park, Nantwich; and third, Messrs. Lane, the great Rose growers of Berkhampstead. It was in this class that Mr. Tillyard's *Mill Hill Hamburghs* fell between two stools. His *Mill Hills* were just like his productions, and if he would save the seeds of a morphological berry in one of the bunches we should have Grapes from it which would beat the Surbiton Grapes from the open wall. Boxes or baskets of Grapes weighing fifteen pounds each, from market gardeners only, first prize to Mr. Davies, of Oak Hill, East Barnet; second to Mr. Sparry, of the Queen's Graperies, Brighton, who gets the blackest tint to his *Hamburghs;* and third, Mr. J. Bell, Thorpe, Norfolk, another well-known, first-rate grower.

Peaches, single dish, first prize to Mr. Little, as above; and second, Mr. Hill, ditto. Both dishes in perfection for the table.

Melons.—First prize, Mr. Watson, Ealing, with a highly-flavoured, green-flesh, netted Melon, called *Seymour's Green Flesh;* second, Mr Monro, gardener to Mrs. Oddie, Colney House, St. Alban's; third, Mr. Frost, Preston Hall. Mr. Snow and Mr. Whiting had first and second prizes for *Plums*, and Mr. Snow prizes for *Figs* and *Currants;* Mr. Ingram and Mr. Tillyard for *Alpine Strawberries*. Mr. Frost also had a prize for *Currants;* and Messrs. Mortimer, Browne, and Tillyard had first, second, and third prizes for *Raspberries*. Mr. Gaines, of Battersea, had the first prize for the new fruit *Eugenia Ugni;* Mr. Williams, from Liverpool, the second; and Mr. Elliott, gardener to S. G. Palmer, Esq., third. Mr. Robinson, gardener to Lord Boston, Hedsor, had the first prize for the *Orange* tribe. His pot plants were covered with ripe fruit. Mr. Elliott, gardener to Lord Ilchester, second; and Mr. Lane, of Fulham, the third.

There was a fine dish of the ripe fruit of the *Benthamia fragifera*, huge strawberry-looking fruit, from Mr. Cox, gardener to W. Wells, Esq., Redleaf, Kent, which was gathered from a standard in the open air—another proof of the extraordinarily fine season we have just gone through. Also, from the same, a beautiful dish of the *Cape Gooseberry* in their finely-bleached envelopes. This is *Physalis edulis* of botany. The seeds are sown early in the spring, and the plants are fruited in the greenhouse.

There was a large glass of beautiful virgin honey from one of Neighbour's hives, and lots of other odds and ends; but the company squeezed one so at last that I was glad to escape out of the bustle with the notes I had taken; but if I think of anything else, or if I am put in mind of it, I shall consider the matter, and say just what I think.

D. Beaton.

HARDY SHRUB FORCING.

Now that the fruit season has arrived nearly at its close, and little can be advised concerning it, I may, perhaps, be permitted to offer a few observations on some other matters pertaining to gardening. In doing so I may possibly have to cross the path of some of my coadjutors, but I count on their urbanity, which has been tolerably well tested for some years; and, moreover, be it understood, we are all guilty of this—horticultural poaching on our neighbour's manor. And, indeed, it is well, perhaps, that it should be so; for, seeing that all the writers on the staff of The Cottage Gardener are really practical men and persons of long experience, it lays in their power occasionally to throw extra light on each other's observations, and this done with a due amount of courtesy all is well.

The forcing of hardy shrubs is not carried out with so much alacrity in these times as in my younger days. I well remember that forty or fifty years since this hardy shrub forcing was one of the most important affairs for consideration in the month of November. And why? Simply because they had scarcely any flowers in those days which blossomed naturally in winter; but, as is now the case with the natives of Britain, the love of flowers did not cease even in the dormant season. There was still a hankering after them in defiance of snow storms and the ravages of King Frost—that imperious monarch who attempts to bind in fetters the pets of the vegetable kingdom.

In those days to which I have adverted gardeners used to rush into the nurseries about the metropolis at the beginning of November to mark American shrubs for forcing, and to select Moss and Cabbage Roses for forcing purposes, and some other little things, in order to sustain a kind of plant house through the winter; and, although a little wide of my purpose, I may observe that there was a great demand for Asparagus roots and Sea-kale, in order to keep the cook in temper.

But we have had such a splendid lot of things introduced during the last score years that flower naturally, or with little excitement, through the winter, that we care much less about this shrub forcing; and, indeed, it is well so, for no man can force these hardy shrubs well at an early period without something like a special provision for them. But as there are those who still love to indulge in a forced Moss or Cabbage Rose, a hardy or American Azalea, &c., I will make bold to proceed with my remarks. And first let me point to the names of a few of the families which stand foremost in this affair. I must place them in the order in which they occur to me.

HARDY SHRUBS FOR FORCING.

Roses, Moss and Provence; Azaleas, the American; Lilacs; Mezereon; Honeysuckle; Sweet Brier; *Ribes sanguinea;* Deutzias; Weigelas; Forsythias; Sedums; Andromedas; Rhododendrons; Kalmias, and Rhodoras. These are a few of what used to constitute forcing materials as to mere shrubs, and let me add that they still possess much interest.

Now, in the first place, unless these shrubs have made a growth adapted to forcing purposes previously it is in vain to expect a high degree of success. In order to render the matter familiar to readers who do not understand the formation of blossom buds in plants I will put a case or two. Most are familiar with our hardy American Azaleas. They have seen bunches of these

with blossom buds on some points and none on others. This must strike any ordinary observer. Now, the barrenness of some shoots may arise from more than one or two causes. In the first place those shoots may be too luxuriant, or they may be late growths, or they may have been too much shaded by other growths, or, finally, they may have been too weak to produce a blossom bud, for a certain amount of strength is indispensable, although too much constitutes in many plants an invincible coarseness. The conditions requisite to form blossom buds in this family are an intermediate strength of wood, early growth, and ripening the wood.

And now I may allude to the *Moss Rose*, and this is more difficult, I confess, to explain. It does not blossom from the terminal points of the old wood like the Azalea, but from small buds like pin-heads, with which the sides of such shoots are studded. As to why it should be so I cannot fully explain, for it does appear strange in pruning such Roses to cut back to these simple-looking affairs; but this may suffice to point to the great difference in habit between such things as the Azalea and the Rose.

In looking over the plants suggested for forcing purposes I perceive it necessary to observe that some of them must be established in pots to succeed, and that others are quite as well removed from the open ground. Roses are almost useless unless well established in pots. Lilacs have ever been thought best thus established; Sweet Briers the same, and let us add the Mezereon; but when we come to the American plants the case somewhat differs. These have been taken from the open ground, and forced immediately for probably nearly a century.

I may now allude to the conditions requisite for forcing them, for, although they will blossom in due time stuck on a greenhouse shelf, yet to have them flower at the end of January, or sooner, requires a special course of treatment. A moist heat is of the highest importance; but that genial moisture which is destined to qualify the heat used, and to satisfy gaping pores in the foliage, depends but too often on the chances at command rather than on principle. After all, gardeners seem to admit that there is nothing like a dung bed, and, indeed, there is much truth in the opinion; but we must in the main try to do with such means as lay at our elbows. Be such what they may, a certain amount of heat and also of air moisture is absolutely essential in order to command success. Bottom heat, too, is of great importance in this matter. All shrubs force much better for plunging in a proper medium. Not that they will not succeed without it. They should by all means have as light a situation as possible, and be near to the glass.

With regard to air heat it may be very moderate during the first stage of forcing, for our business is to excite a root action first, and, indeed, under any circumstances the buds of these plants require a given time to develope themselves.

Speaking here of the development of blossom buds reminds me of the length of time the *Camellia* requires to swell and expand the blossom bud. The latter, first manifest in May or June, cannot, by fair means, be made to expand before November. Here we see half a year consumed in organising and expanding the bud. This is, however, no great marvel when we consider the great amount of well-constructed petals which a bud contains, and which must of necessity take much time in perfecting, so that the beginner in forcing matters must not be astonished and impatient that his things make such slow advances. But it is so in all forcing matters. The Vine, Peach, Strawberry, &c., all have to swell and expand their buds in a tardy way. As for Strawberries, one of the chief secrets of their successful forcing is to bring them forward in their earlier stages by a low temperature and by almost imperceptible degrees.

But to return to our forcing shrubs. Let me observe that those which are deciduous, as the Moss Roses, Rhodoras, American Azaleas, Lilacs, &c., will pass the first three weeks of their forcing with very little light if needs be. They have little occasion for light until the foliage commences development. The knowledge of this fact may sometimes enable the operator to economise his space.

During the time that the bud is expanding syringing should be used both morning and evening, providing there is fire heat applied to the structure. If only dung heat, and the weather is dull, the syringe must certainly be dispensed with, as the steam from the fermenting materials will be amply sufficient. A liberal ventilation is proper—these hardy things cannot bear codling; and in order to carry out such it is necessary to be provided with plenty of heat to meet such contingencies. Where persons force with the aid of fire heat in combination with bottom heat this is easily accomplished. Where dung pits are used without fire it is very difficult, and the consequence is that much putrefaction through damp is engendered through the earliest part of the spring. Of course watering at the root must be attended to, and it may be observed that American plants taken up with balls of earth require very liberal waterings, especially as they approach the blossoming state.

Here I may as well advert to the potting of them from the open soil. I before observed that there would be what is termed "a ball," that is to say, a mass of fibres from which the soil is with difficulty disengaged. Now, this ball is not by any means so readily permeable by water as the loose soil by which it is surrounded in the act of potting; therefore, in the act of potting, caution should be exercised, and the soil should be pressed in very firmly around the ball; but, be it remembered, that soils in a moist state will not bear much pressure, therefore it becomes necessary to use dryish soil.

I may here speak of retarding matters, and have to observe that this class of flowers are in general so susceptible of extremes of temperature in the heat way that, unless caution is exercised, their beauties are soon dissipated. Azaleas, Rhododendrons, &c., left in a hot place where the forcing is carried on will not endure above a fortnight in all their freshness. Removed to a cool house or room they will, in most cases, endure treble the time, especially if kept from much sunshine. Plants of this description are the better for a little pruning previously to their being introduced to heat. Lilacs, Azaleas, &c., often possess a few coarse shoots projecting beyond the true blossom. These having no blossom buds on are simply in the way of the object sought, and may be pruned close back. R. Errington.

FLOWER-GARDEN PLANTS WHICH HAVE DONE WELL THIS SEASON.

In my last communication mention was made of some of the usual ornaments of the flower garden which had either wholly or partially failed in contributing to the general display so much wanted during the summer months. Some of those complained of having generally done their duty well in former years ought not to be entirely discarded, while those which have done well this season, the same as on former occasions, have earned for themselves a reputation which will be the more enduring since they have proved themselves useful in all years; and though the rage for novelties was, perhaps, never greater than it is now, and plants adapted for bedding, whether new or old, are sought after with untiring assiduity, still the number, in a general way, does not increase. The "weedings" that annually take place absorb all the new comers, and the very small number of species or varieties that are often made to

furnish extensive flower gardens prove that the public are more anxious for a generally good display than they are for an extensive collection. In fact, selection has been carried so far that the really "select" number but very few; and though I confess to being one of the fastidious class I am far from certain that my "favourites" are the same as those of others, as we all have our own peculiar tastes and whims; but, as the pages of The Cottage Gardener form an excellent medium for discussing such matters, I venture an opinion of what I consider to be the best plants for general purposes in the flower-garden way, taking into consideration the various points of neatness of habit, easy culture, and long-continued display, as well as the qualification of adapting themselves to the various changes they have to endure in respect to dry or wet seasons, cold or warm situations, and other points of interest, adding a few notes to each variety of the treatment it ought to have to show itself to the best advantage.

Geranium (Mangles' Variegated).—Notwithstanding the many varieties we have been favoured with since this first appeared amongst us it is certainly the best one yet. Being of a free growth it speedily occupies a bed, and looks well immediately it is planted, the foliage looking as well without the blooms as with them. It also suffers less from the dry weather that frequently succeeds the planting season than many other plants, and it is also an excellent plant to form an edging with, more especially on a bed on turf. It is also, as I have in another place observed, a useful plant for vases, window boxes, or other places of that kind; but as a potted plant its habit is not so good as *Flower of the Day*, *Brilliant*, and some others. But all parties having a number of beds on grass ought to plant this extensively, as neither hot weather nor heavy rains detract from its beauty, which is not the case with many things. It seeds sparingly, but strikes freely from cuttings put in some sunny place in August.

Geranium (Flower of the Day).—This is not so free a grower as the last named, but is more upright, and the flower truss larger, and not a bad scarlet. When in perfection it looks well, but I confess liking *Mangles'*; but as *Flower of the Day* is so liable to sport and return to the plain green condition of the original, and then look coarse, it is not at all adapted for an edging, but makes an excellent plant for a row in a rainbow border, or an inner ring in ribbon bedding. It seeds freely, and strikes and keeps through the winter as well as *Tom Thumb* or any other scarlet.

Geraniums (other Variegated Kinds).—The above are the best I have, but an Oak-leaved variety, strongly scented, is also good, while an Ivy-leaved one has invariably looked shabby after the beginning of September. *Brilliant* I have not sufficiently tried to determine on, but I never could make much of *Golden Chain*, and, though I have seen it extensively used elsewhere, it very often, in my opinion, marred rather than improved the effect, as, in spite of the most skilful treatment, it is a dwarf, shy grower, allowing almost everything to overtop it, and consequently destroying that uniformity which ought to prevail here. *Dandy* is also unfitted for anything except an occasional "dot" in the front of a mixed border. Peat soil suits both better than loam.

Geraniums of Tom Thumb and Scarlet Horseshoe-leaved Breeds.—There is a considerable variety of them, the best I grow being a very strong grower called *Smith's Emperor*, or *Mrs. Mangles*, for the centre of beds. It is not horseshoe-marked; but *Mrs. Ricketts*, the next in point of size, has that marking, and a brilliant scarlet truss of bloom, with a white eye. These with *Tom Thumb* are sufficient in a general way. *Baron Hugel* has a deeper leaf-marking than *Mrs. Ricketts*, but I have not tried it yet sufficiently to prove its utility. Scarlet Geraniums seem indispensable in every garden, and they generally do well, this year in particular flowering abundantly. Our dry and not over deep soil seems to suit them well, and they do good service. They are also indispensable as plants suited to the rainbow or ribbon style of planting.

Geraniums of the latter Kind, with Rose, Pink, and White Flowers.—Of the first of these *Trentham Rose* is better than *Cerise Unique* or *Judy*, and *Lady Holmesdale* or *Princess Alice* is better than *Lucia rosea* or *Pink Nosegay* in the pink way. Of whites I have only two, and *Boule de Neige* is the best of these; but I do not admire it much, as it is but a dull dingy white at best, and the pink varieties make more wood than flower; in fact, *Trentham Rose* for beds and *Cerise Unique* for pot culture are the best in this class.

Verbenas.—This extensive class presents as much difference in habit as in colour, and not the least useful one with me being the old *Pulchella* or a variety of it, as it makes an excellent edging, and covers a bed well. *Impératrice Elizabeth* is equal to it in habit, but does not look so well in the distance. Of the scarlets *Miss Trotter* as a dwarf, and *Mrs. Woodroffe* as a strong grower, are both good. *Blue Bonnet* is also good in its colour, and upright rather than creeping in its habit, and for that purpose is good for the ribbon beds. Old varieties need not necessarily be discarded, as I regard the old *Emperor of China* as one of the best crimson yet; habit dwarf and good. The *Duke of Cambridge*, purple with white eyes, is also good in its way, and there is no lack of pink, lilac, mixtures, and all the intermediate colours. Suffice it to say that the present season Verbenas have done well here notwithstanding the drought, and I shall be induced to plant them more extensively another season in consequence, as they are very convenient things to keep in order. One of the prettiest beds I have seen this season was at Knowsley, the princely seat of Lord Derby, in Lancashire. It was an irregular scroll-shaped bed, with a dark blue or purple in the centre and a white one outside; the latter contrasting so well with the grass plot on which the bed was formed, delineated its shape to a nicety, the white Verbena being an upright growing one of compact habit. I forget the name which Mr. Jennings, the able gardener, then gave it. Verbenas for beds ought to be distinct colours. The fancy shaded ones, however pretty in an exhibition stand, seldom look well in a bed unless they flower very abundantly and the colour be useful as one of the intermediate class, but a tolerably good effect is produced at times with Verbenas alone. I planted a small geometric garden, of about thirty beds, with as many dissimilar kinds as I could, and they looked much better than another garden of like size that was all Calceolarias. A good yellow is wanted in Verbenas. The old *Sulphurea* seems to be lost, otherwise something useful might, perhaps, have been raised from it. The present season seems to have been very prolific of seed, which, of Verbenas, seems to grow nearly as freely as weeds, plants coming up on beds that had been Verbenas the preceding season, and flowering in due time. Scarlet Geraniums are equally self-producing, only they never flower that season; but Petunias and Cupheas frequently do when allowed to remain.

Petunias.—These have been very good this season, but somehow the kinds most recommended by florists are not the best for general display in beds. A clear, distinct-coloured flower that stands sun and rain well is the one for effect, not the delicately-pencilled kinds, or flimsy, fine-coloured ones. Although I have several named kinds I do not like any of them so well as a seedling of no pretensions in a florist's eye, but which seems to stand all weathers without injury. A good white seems wanting, for I have not seen one yet that perfectly deserves that name. As a class Petunias have done better this season than usual.

Nierembergia gracilis.—This useful little plant is second to none for certainty of growth and abundant flowering. Its compact habit also renders it invaluable as an edging, or for a row in the ribbon bordering. It has on all occasions done well here, this season being no exception. Its pale lilac-coloured flowers contrast well with turf, so that it makes a capital edging around beds of other things. It is, however, second to the following plant for that purpose.

Alyssum variegatum.—This is without exception the best plant I am acquainted with for an edging round a bed on grass, more especially if scarlet Geranium, or other plants of that stamp, occupy the centre of it. Compact, yet free growing, it speedily looks well, and though its flowers are not ornamental they have the good qualification of being the same colour as the rest of the plant, therefore not injuring its effect as a whole. Viewed at a little distance this plant appears the most showy in the garden for the greatest length of time, for it speedily grows and occupies its allotted space in early summer, and in autumn is amongst the last that is ornamental. For the bouquet, however, it is not much of a favourite, but its smell in sunny weather is grateful. It is easy to keep through the winter, and strikes root very freely at all times. Even late in autumn it is more easily managed that way than *Lobelia*, *Nierembergia*, &c.

Cuphea strigillosa and C. platycentra.—These two form an excellent bed together, the first named in the centre and the other outside. Although they flower tolerably soon it is always late in the season ere they are much admired, for it is the autumn rains and dews that wash and brighten the colours so much, and there appear more of them as the season advances, so that long after other flowers have ceased to be ornamental this is just in its beauty. *C. platycentra* makes an excellent edging around almost any plant, but looks best when in contact with some light-coloured body. I often plant it as an edging around beds of Calceolarias or *Ageratum Mexicanum*. *C. strigillosa* is only adapted for the centre of a bed and for autumn flowering.

Cineraria amelloides.—This old plant is too often discarded from fashionable gardens, while its close, compact habit and freedom of growth entitle it to some consideration. Its flowers are certainly not so numerous as those of Petunia, Ageratum, and others, but they are more enduring. A poor soil suits this plant best.

Ageratum Mexicanum.—The dwarf variety of this is really a useful plant, and in point of colour we have nothing to match it. This also flowers all the better for the ground not being too rich. The variegated variety promises to be useful, but, like other variegated plants, is more sparing of flowers.

Salvia splendens.—Although I cannot, in a general way, recommend this plant for bedding purposes, yet individual plants ought always to be planted in mixed borders, as this autumn (now October 20th) they are the most attractive flowers we have, far eclipsing any Dahlia, Chrysanthemum, or Aster. The rain does not seem to hurt them, but the first frost will. Plants also take up well, and pot and flower on afterwards.

Double Pyrethrum.—This is, perhaps, the purest white of all our bedding plants when at its best; but, although the flowers stand longer than most others, there is not much succession. Thus it is better to raise successional crops of plants by cuttings, as occasionally cutting old plants down before flowering will retard them; but, after all, they are better adapted for a mixed bed than one by themselves, as it is not easy to secure a succession of flowers and that symmetry of growth so necessary in the well-kept parterre. It is quite hardy, and occasionally seeds.

Fuchsia Riccartoni.—This I still place at the head of the hardy Fuchsias, as well for its abundant, brilliantly coloured blossom as for its uniformly good habit and adaptability to suit all places. This Fuchsia for the centre and a good variety of the *globosa* for the outside make an excellent bed, which requires no attention at any time save weeding and cutting down the dead stems in winter.

Lobelia ocymoides.—This and other varieties of the *erinus* breed are all useful for small beds, but only the upright flowering ones are suitable for edgings, unless the other plants be also low. With me they are liable to die off during the summer, and are, therefore, but little grown.

Besides the above there are other flowering plants that all deserve a place in the mixed flower garden; but those really adapted for the purposes of massing are much fewer than is generally supposed. *Heliotropes* seem to me unsuited, from the absence of any decided colour, and *Pentstemons* flower too sparingly, as likewise do *Antirrhinums*, *Indian Pinks*, and other things. *Lantana Sellowii* or its descendants do better; but in cold, wet seasons they make little progress, and as most admirers of flower gardens like to see their beds look well from all points of view and at all reasonable distances, those only which have decided colours look well a little way off. Most annuals I regard as too transient or flimsy; but for a large bed, and especially in a place where everything else will not grow well, the old *Love-lies-bleeding* and *Prince's Feather* make and keep up a good show for a long time. *French Marigolds* would be equally accommodating if we could insure their all coming double and be uniform in growth; but, as a long-continued display of floral beauty is the object now aimed at, a selection rather than a collection has been my aim. How far my views may differ from those of others I shall be happy to learn, as we all have our especial favourites, and I am far from asserting that I have not lauded mine too much and disparaged others; but reports from other districts will test this, and benefit all lovers of outdoor flowers.

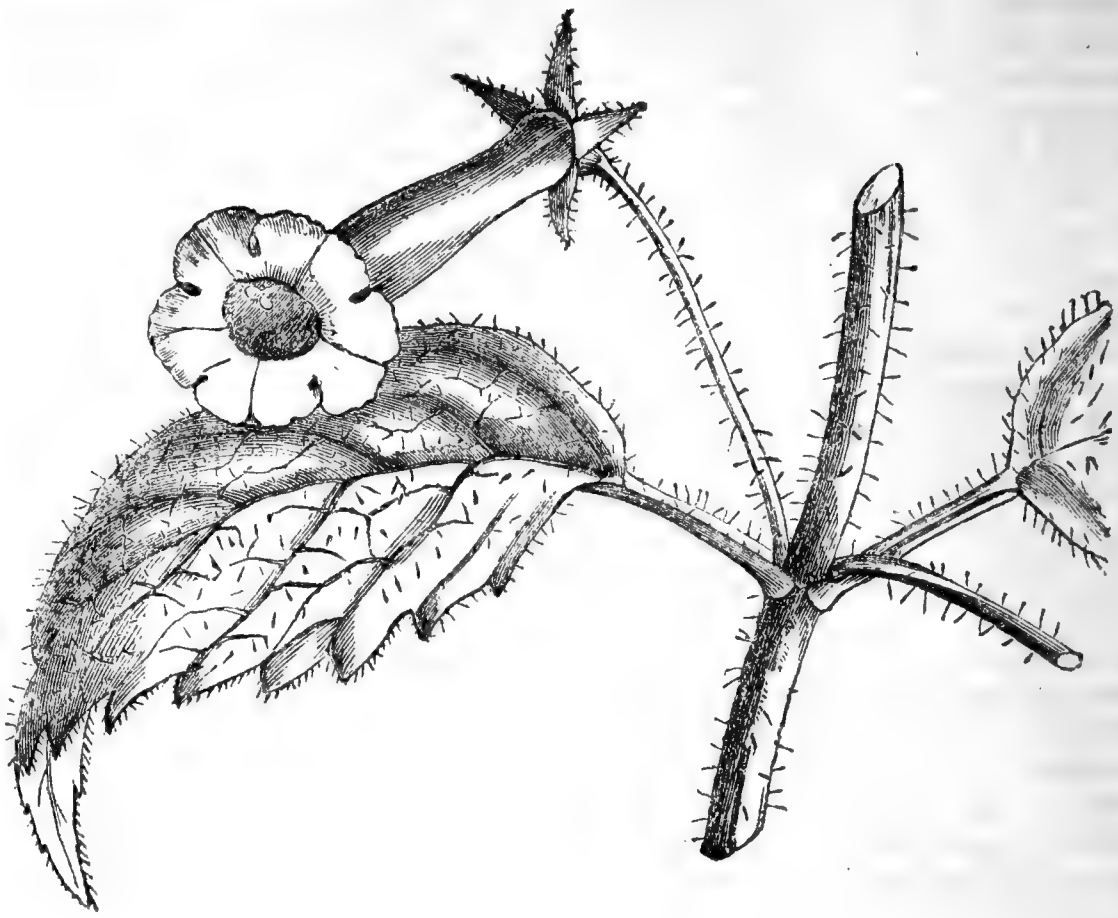
J. Robson.

LIST OF TWENTY-NINE PLANTS TO BLOOM DURING WINTER IN A COOL CONSERVATORY AT WOOLLEY LODGE, BERKS.

The blooming will last from November to March.

Chrysanthemums of sorts.
Scarlet Geraniums.
Flower of the Day, ditto.
Camellias.
Fuchsia Dominiana, serratifolia, &c.
Mignonette, French.
Poinsettia pulcherrima.
Orange trees.
Salvia splendens and Gesneræflora.
Balsamina (Impatiens) Jerdoniæ.
Daphne Indica.
Ageratums.
Heliotropes.
Linum tigrinum.
Tropæolum Canariense.
Roses of sorts.
Gesnera zebrina.
Primulas.
Pinks.
Epacrises.
Heaths.
Epiphyllums of the Cacti tribe.
Cyclamens.
Wallflowers.
Stocks.
Cytisus.
Calceolarias.
Ardisia carnata—red berries. In all twenty-nine.

ACHIMENES GHIESBREGHTII OF THE GARDENS.



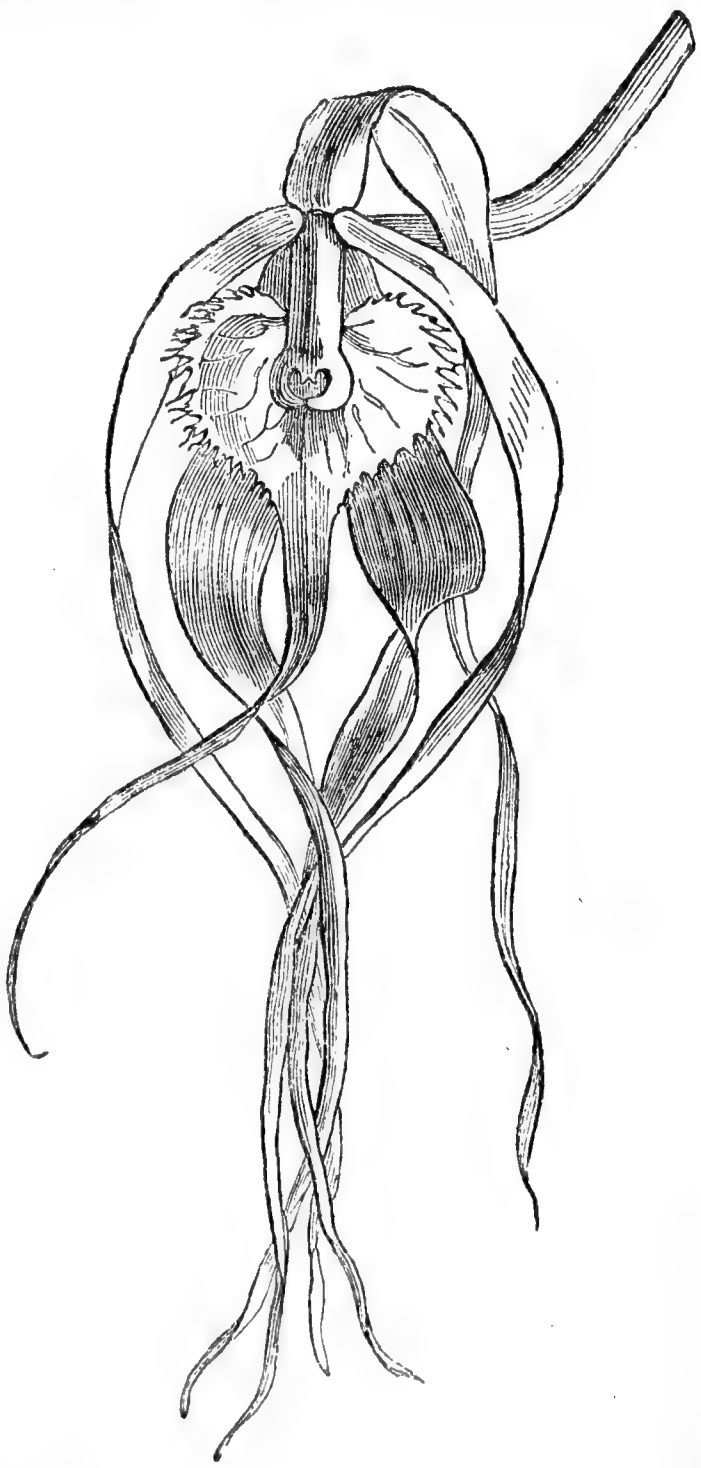
Presented to the Horticultural Society by Mr. Andrew Henderson, of the Wellington Nursery, St. John's Wood Road, in 1849.

Stems erect, deep purple brown, with a few scattered hairs. Leaves opposite, stalked, oblong-lanceolate, rugose, convex, coarsely serrated, not unlike those of the larger stinging-nettle. Flowers solitary, axillary, with a slender hairy peduncle, twice as long as the leafstalks. Calyx smooth, equally five-parted. Corolla deflexed, nearly cylindrical, gibbous at the base on the upper side, one inch and a half long, bright scarlet, with an oblique regular limb, and a circular throat. Disk a lobed fleshy ring. Stigma large, two-lobed, very hairy.

This is a neat, distinct, and rather slender kind, requiring the same treatment as the old *A. coccinea*, and easily increased by the small scaly rhizomes. It grows about eight or ten inches in height, and flowers from June to August. It is very handsome.—(*Horticultural Society's Journal.*)

BRASSAVOLA CUCULLATA.

Origin unknown. This cut represents a flower of what



we believe to be *B. cucullata*. It is pure white, and remarkable for the manner in which its long tail-like lip and other floral divisions fall to one side as soon as they are disengaged from each other in the bud. In the foliage there is nothing to distinguish the plant from several other species. If the old figure of the species in the *Botanical Magazine*, t. 543, is to be trusted, the lip must be subject to some variation in form; but we have no plant now in cultivation which corresponds with that figure, nor has such a plant been remarked by me in herbaria.

A neat little kind, more singular than ornamental.—(*Horticultural Society's Journal.*)

STUD HOUSE, HAMPTON COURT.

Mr. Beaton having brought my name so prominently into notice, at page 406 of the last volume of your valuable journal, in connection with my visit to the gardens at the Stud House, and having assigned to me the important post of chief imaginary commissioner, permit me to state in justice to myself that my visit was quite unconnected with any association whatever, and that I repaired to the Stud House merely to satisfy myself and to form an opinion about Mr. Kidd's system of Tomato growing.

I found, indeed, everything fully confirmed that which Mr. Beaton had said of their excellence, both as regards quality and quantity. A border upwards of 400 feet in length from end to end was quite scarlet with the showy fruit, and Mr. Kidd deserves every credit for his skilful mode of growing them. I may add that in the kitchen garden were excellent crops of fruit and vegetables, and that the pleasure grounds were in the highest style of keeping.—W. Forsyth, *Gunnersbury Park.*

PEACHES RIPENED ON STANDARDS.

We have received from Mr. Rivers two specimens of the *Pêche des Vignes* which have been ripened on a standard tree in his nursery at Sawbridgeworth. He says, "You know all about the *Pêche des Vignes*, the sort they grow so abundantly as low standards among the Vines in the middle of France, and the fruit of which is used for preserving, &c. A few years ago I imported some of the trees. They are very hardy, and do not grow too luxuriantly, but in spring frosts so constantly destroyed their blossoms that I almost forgot their existence. In passing to-day one of my forgotten trees I found some very nice fruit on it, and as Peaches from standards 'are rare birds' in England I send

you two. The trees are mostly raised from stones, and have a beautiful appearance when full of fruit."

The fruit, though not equal to that grown in his orchard houses, was, nevertheless, perfectly ripe and juicy, but without much sugar or aroma. This may, however, be the first "break," and if Mr. Rivers were to raise plants from the seed of these it may be that we might have very good fruit from standards, which, if not good enough for the dessert, might be at least worth something for preserving.

Some years ago we raised a Peach from a stone given us by a Dublin friend, and we called it the *Hardy Morton Peach.* It bore well as an espalier on a soil sloping to the south, at an elevation of about 250 feet, in Essex. Upon revisiting the garden we find the tree has been destroyed.

GALPHIMIA GLAUCA.

Sent from Mexico by Mr. Hartweg in 1837.

A beautiful shrub, easily kept in the form of a bush. The leaves are a deep bluish green, ovate, obtuse, glaucous on the under side, and furnished with a pair of glands on the edge near the base. The flowers, which are golden yellow, appear in close terminal racemes, between three and four inches long in strong plants. Each has five distinct petals, with almost exactly the form of a trowel.

This slender stove plant grows freely in a mixture of loam and sandy peat, and is easily increased by cuttings of the half-ripened young shoots. It requires to be kept rather dry for a few months, and afterwards, during the growing season, to be freely supplied with moisture both to the roots and in the atmosphere.

It is a very desirable species, as it flowers during the latter part of the autumn.—(*Horticultural Society's Journal.*)

ENTOMOLOGICAL SOCIETY'S MEETING.

The October Meeting of the Entomological Society was very fully attended, and a goodly display of novelties provided by the members, who have now chiefly shut up their nets till next season. The chair was taken by the President, W. W. Saunders, Esq., F.R.S., Treasurer of the Horticultural Society. An extensive series of donations received since the last Meeting was read, including the Transactions of the Royal Society, the Society of Arts, the Berwickshire Naturalists' Club, and the Royal Society of Agriculture. The volume of Transactions of the last-named Society contained another of the excellent memoirs on agricultural insects by Mr. Curtis. We are sorry to learn that this is the concluding paper of the series, and are grieved to find that the affliction under which its talented author is suffering will preclude him from any further entomological labours.

Mr. Samuel Stevens exhibited the larvæ of the rare Hawk Moth, *Declephila galii*, which he had taken on the white Galium on the coast of Kent. Also some stems of the wild Sea Cabbage infested by two species of Weevils, the larvæ of one of which reside in the stem, and those of the other feed on the outer surface of the roots.

Mr. Newman exhibited a specimen of *Zuphium olens*, a Beetle common in the south of France, not previously found in this country, but which he had taken at Forest Hill, in the bed of the old canal, on the 19th of September last.

Mr. Sang exhibited a new British Moth, *Acrolepia betutella*, from Darlington.

Dr. Power and Mr. Ianson exhibited a number of specimens of the beautiful Beetle *Drypta dentata* (*emarginata*), which they had taken in profusion about the roots of tufts of grass at Alverstoke, Hampshire. Dr. Power likewise exhibited a new species of Aleocharidæ (small Rove Beetles), taken in the nest of the Black Ant, and another in that of *Myrmica rufa*. Also a new species of Chlœrius from the Isle of Wight.

Mr. Dossiter exhibited living specimens of the females of a large black species of *Aphis*, some of which had produced eggs, and others living young ones, whilst in captivity.

Various instances of the capture of the Locust in different parts of the country were mentioned.

Mr. F. Smith gave an account of the recent capture in this country of four new British species of Ants, one of which had been found by Mr. Reading near Plymouth. A second, *Myrmica nitidula*, had been captured in the nest of *Formica rufa*. Workers of *Ponera contracta* had been taken

at Brighton; and a fourth species had been found on the Sand Hills, near Deal.

Mr. Westwood exhibited specimens of both sexes of a new British species of Earwig, *Forficula maritima*, which had been taken in some profusion by Mr. Wailes on the coast of Northumberland. He also exhibited a specimen of the *Tsetse*, a fly found in the interior of Africa, which destroys horses and oxen, and which had been affirmed by Mr. Bracy Clark to be identical with the *Œstrus bovis*. The descriptions which had been given of its habits by Dr. Livingstone, Gordon Cumming, Major Frank Vardon, and other travellers clearly showed that the insect was a species of *Glossina*, very nearly allied to the troublesome *Stomoxys irritans* of our apartments. It had accordingly been described by. Mr. Westwood under the name of *Glossina morsitans*.

The Rev. Hamlet Clark exhibited a fine series of Chrysomelidæ recently taken by himself in Brazil. A quantity of the jumping seeds of Mexico, known by the natives under the name of *Tassee*, were exhibited, and caused much amusement. They had been forwarded to the Society by W. G. Lettsom, Esq., of the Mexican Legation. The motion was caused by a caterpillar in the interior of each of the seeds.

Mr. F. Bond exhibited some beautiful varieties of the purple Emperor Butterfly, and Mr. Edwin Shepherd a specimen of the rare Rove Beetle, *Quedius dilatatus*, taken on trees in the New Forest, having been attracted by sugar placed there to decoy moths.

Mr. Saunders gave an account of the curious habits of *Notonecta glauca* and *Acilius sulcatus*, two water insects, in suddenly rising and seizing their prey which may happen to fall upon the surface of the water. By fastening a fly to the end of a string a number of specimens had been captured in this manner.

Mr. Douglas mentioned the capture near Dumfries of *Coleas edusa* and *Urecla quercus*.

Mr. Moore read a monograph of the eastern species of a genus of Butterflies named *Adolias*. Of these he enumerated fifty-two, more than half of which were now for the first time described.

Extracts from letters recently received from Mr. Wallace were read, giving an account of the entomology of one of the islands of the New Guinea group.

FLORISTS' FLOWERS.

ROSE CULTURE IN OCTOBER AND NOVEMBER.

Preparing for Planting.—Wherever it is intended to plant or transplant Roses now is the time to prepare the ground. Too many persons think that any soil, situation, or management will do for Roses. This is a great mistake, and Roses so managed seldom either grow or flower well. Where it is intended to cultivate them alone or exclusively an open situation, sheltered at a distance by tall evergreens, should be chosen. If that place is unavoidably low and wet it is absolutely necessary to have it well drained. This being done the ground should be as deeply trenched as the nature of the soil will admit. After that is completed then there should be applied a good dressing of well-rotted stable dung, and in such a low situation the beds should be raised above the general level with good fresh loam. This loam and the dung should be well commixed together, and then some dry day early in November let the Roses be planted. Standards must be immediately securely staked, as the fresh rooting process will commence directly after planting, and if the trees are left exposed to be twisted about with the autumn and winter winds the young and tender roots will be greatly retarded in growth and injured thereby. It is, however, becoming a serious question amongst Rose growers whether tall standards are desirable, partly on account of requiring stakes, and partly because on such high trees the best Roses are seen only in profile. The only point I can press in their favour is, that they serve to break the monotonous level of the parterre, and give variety to the place. Standards, also, are useful to plant near the margins of straight walks, forming as it were an avenue of Roses. A bed of standards all of one height is certainly not a pleasing object; but if a few tall ones are in the centre, then lesser ones round them, and still shorter ones next, and finally a circle of very dwarf China and fairy varieties, such an arrangement is pleasing enough, and admissible anywhere in dressed grounds. In general, however, it may be stated that what are called half standards are the best, because then the eye looks down upon the flowers, and grasps as it were at once all their beauty of form and colour. Tall weeping standards, on the other hand, are, where they thrive, eminently graceful and beautiful, but they are mostly small flowered, and therefore should be sparingly introduced, and should always stand singly in peculiar situations.

If standards are to be placed by the sides of walks or singly on the lawn the soil should be taken out eighteen inches deep and two feet wide, and the hole filled with a compost of three parts turfy, fresh loam, and one part well-decomposed dung. After they are planted and staked a mulching of littery dung should be laid on the surface. This mulching should be used on the beds as well as the standards. It protects the roots from the frosts, and thus enables the young roots to push forth freely much longer. Another point to attend to is *not to prune newly-planted Roses* till the spring. It may be that some of them may have long straggling branches. Such may be shortened in half their length.

As in this paper so far I have dwelt more particularly upon the management of new plantations of Roses, I think a selected list in this place will be appropriate and useful. I am supposing that there are no Roses in the place where the new plantations are forming.

Moss Roses.—These, from the mossy coverings of the buds, are universally admired. They are generally strong growers, requiring free pruning.

Alice Leroy, rosy lilac, large and full; a good variety.
Blush, new, pale blush, large and good.
Celina, brilliant crimson, cupped; one of the best.
Common, rosy blush, large, and still one of the best.
Comtesse de Murinais, white, very hardy; the best white we have.
Lanei, bright rosy crimson, large, and very double.
Princess Alice, blush, pink centre; very beautiful.
Unique de Provence, pure white; very good.

Hybrid Provence Roses.—Require to be moderately pruned.

Blanchefleur, French white, large; a fine old Rose.
Comtesse de Ségur, creamy white, buff centre; fine shape.
Gloire de France, deep red, large and double.
Princesse Clementine, pure white; one of the finest white Roses grown.
Ville de Londres, deep rose, immensely large, and fine.

Damask Roses.—These are very hardy, of robust habit, and require moderate pruning.

Duke of Cambridge, deep cherry, very large and showy.
Madame Hardy, pure white, large and well formed.
Madame Stolz, pale lemon, perfect in shape, and beautiful.
Madame Zoutman, creamy white, globular, large and double; one of the finest show Roses.

Rosa alba.—A class of Roses that are very interesting and of distinct habits; require rich soil and close pruning.

Etoile de Malmaison, light blush, in large clusters.
Félicité, rosy flesh colour, cupped, and double.
Lucrèce, delicate pink, large; a beautiful new Rose.
Madame Legras St. Germains, a long name to a pure white Rose with creamy centre; very fine.

Princesse de Lumballe, purest white known.

Rosa Gallica, or French Roses.—There is an immense number of names under this class. I select the following as being the best. They require close pruning.

Boule de Nanteuil, purplish violet, shaded; fine.
D'Aguesseau, brilliant crimson, very large and fine.
Eclatante, bright scarlet, very showy.
Elodie, bright rosy pink; a very beautiful Rose.
Gloire de Colmar, rich velvety crimson, shaded.
Kean, brilliant crimson, splendid.
Napoléon, deep rose, shaded with purple, very large.
Œillet Parfait, white, striped with bright red, beautiful.
Ohl, rich velvety crimson; one of the best.
Triomphe de Jaussens, deep purplish crimson; truly fine.

Hybrid China Roses.—An extensive class of very fine Roses, generally of a vigorous habit, and therefore suitable for standards and pillar Roses. They thrive well in moderate soil, and should be sparingly pruned.

Beauty of Billiard, bright red, fine.
Chènedolle, vivid crimson, very large.
Comtesse Lacépède, silvery blush, very fine.
Fulgens, bright crimson, very showy.
Général Changarnier, deep rose, slightly spotted, fine.
Général Jacqueminot, rich, velvety, purplish crimson; a splendid Rose.
Juno, delicate rose, very large and globular.
Madame Plantier, pure white, in large clusters.
Vivid, crimson; showy and well formed.

Hybrid Bourbon Roses.—This group has leaves and flowers of a greater substance than the preceding. They are valuable for growing in pots for show and decoration, and require to be more closely pruned than China Roses.

Bernard Palisay, deep rose, veined, large and fine.
Charles Duval, bright rose, large and double.
Charles Lawson, vivid rose, shaded.
Coupe de Hébe, bright flesh pink, globular, perfect in form; one of the very best Roses.
Garibaldi, light crimson; a rich and perfect Rose.
Great Western, crimson and purple, very large.
Las Casas, rose colour, immensely large, fine form.
Paul Perras, shaded rose, very large and perfect.
Paul Ricaut, brilliant carmine, extremely fine.
President Mole, bright purplish rose, very large and perfect.

Austrian Briers and Double Yellow Roses.—This is a very distinct class, and contains all the really double yellow Roses known. Require but little pruning.

Double Yellow, bright yellow, but does not open freely.
Harrisonii, bright yellow, hardy, and blooms freely, though not very double.
Persian Yellow, very deep yellow, globular; the best known.
Williams's Double Yellow, good, but shy in blooming.

Sweet Briers.—Remarkable, as is well known, for the fragrance of their foliage. It is not generally known that there are the following varieties with double flowers:—

Monstrous, pale rose; a fine robust variety.
Scarlet, or *La Belle Distinguée*, bright red; a neat, compact variety, well adapted for edgings round tall-growing Roses.
Splendid, light brilliant crimson; good and distinct.

Climbing Roses.—These include Banksian, Ayrshire, Boursault, Multiflora, and Sempervirens. For a selection I would advise the purchaser to leave it to his nurseryman. The following, however, are good:—

White and yellow Banksian, Ruga, Queen of the Belgians, Amadis, Rivers's Queen, Laure Davouste, Félicité Perpétuelle, Reine des Français, and the Beauty of the Prairies.

I find my space is filled, so I must defer the completion of the list to another opportunity.

T. Appleby.

(*To be continued.*)

QUERIES AND ANSWERS.

DRESSING FLORISTS' FLOWERS.

"As Chrysanthemum Shows are now fast approaching I want to ask you this question—Is it *fair* showing to trim and dress the flowers as the exhibitors do; moreover, I am informed, 'cutting out eyes,' filling up the spaces, and other deceptions?

"The operation put me in mind, nippers and tweezers being used, of a lot of perruquiers preparing coiffures for an evening party. It is true that all *exhibitors* do the same, but this does not, in my opinion, add to its legitimacy. The flowers by the operation are no longer displays of nature only, but positively *artificial* productions.

"At a Flower Show of Dahlias in the north this year a similar practice was denounced by the Judges in very strong terms. Will you oblige me with your opinion upon this practice?"—Diogenes.

[So far as putting a stray petal or floret in its proper position, or even removing one that is obstinately out of place, we see nothing more objectionable than there is in combing the mane of a horse, or dressing the coat of an ox to be exhibited. To cut out the faulty eyes of a flower and to fill up spaces is another matter, and is as fraudulent as sticking on the feathers or painting the legs of fowls. Any man who does so would be a pickpocket, or a forger if in another position of life, for in all three cases it is obtaining money to which he knows that he is not entitled.]

UNHEALTHY GERANIUMS.—LIQUID MANURE FOR THEM.

"1. I have some Geraniums which I cut down at the end of July. They have stood out till the end of last month. At first they sprouted freely, but lately they have gone back, turning yellow and spotted, and some of the leaves go into holes as if eaten by an insect, of which I can see no trace except an occasional green fly now and then, or some minute white specks of a powdery appearance. I have no glass, but keep them in a wide window, by which I give them air.

"2. What is the best liquid manure for Fuchsias and Geraniums, and when should it be applied?"—Hortus.

[We fear that you have got two bad maladies, *the spot* and the mildew, the result generally of the plants being exposed to too much wet and too much cold. After the plants were pruned back and pushed again, and been shifted into fresh soil, they still would require but very little water, even after they began to grow, and none at all in dull weather. We fear the roots have had more moisture than the small leaves could get rid of by perspiration. The spot is difficult to cure, and that only by a process entirely the reverse. Take away every diseased leaf. When the rest are thoroughly dry lay the plant down, and with something like a pepper box dredge every part at all affected with the white mildew with fine flowers of sulphur, keeping the sulphur from falling on the soil. Keep the plants out of the sun for a few days, and then dust all the sulphur off the leaves with a hair brush, and afterwards, to clean more perfectly, pull the head of the plant through water at about 90°, and wash thoroughly; then set the plants in the window, and still give little or no water if the soil is not very dry. Take away a little of the surface soil, and replace with fresh, in case much sulphur should have rested on it. By the by, you have said nothing of re-shifting your plants, and if, after cutting them down, you have allowed them all this time to remain in the old soil, and that allowed to get extra wet, you have another fertile cause of the evils; and if so, in addition to the above modes you had better shake away the earth from the roots, and repot in much smaller pots, and in light sandy soils. With such treatment, cleanliness, washing the leaves, and plenty of fresh air when practicable, you may bring your plants round to good health; but if you would rather pay a little for fresh healthy plants than undergo all this work and trouble, and even then without a perfect certainty as to the result, we would advise doing so, for then you would have the pleasure of looking on healthy plants all the winter.

2. What is the best liquid manure for Fuchsias and Gera-

niums, and when should it be applied? Here we must repeat what was stated the other week about Vine planting. All liquid manures are good if rightly used, and not given in too strong doses. We have used pig, deer, sheep, cow, horse, and fowl dung for this purpose, and all with good effect, provided they were not too fresh and not given too strong; for instance, a bushel of the droppings of well-fed sheep will make a hogshead of capital liquid manure when it has been allowed to mix and mingle for two or three weeks, and then is cleared by a couple of handsful of fresh lime being thrown into it a couple of days before using it. The barrel may be filled up repeatedly, adding a spadeful more each time. Taking a common four-gallon pot as an index, and you propose using artificial manures, such as guano or super-phosphate of lime (two of the best that have come in our way), then two ounces of the first would be amply sufficient, and three ounces of the second, and, as a sediment would be left, a less quantity would be required next time. From three to four ounces of soot would also be a strong dose for such a quantity of water. In using such manures there can be no question that plants, like animals, delight in changes of food. Suppose you give such a guano watering one day, clean water the next, then it would be advisable to follow with sheep-dung water, then clean, then soot water, and so on. For the two tribes you mention, provided varieties were troublesome to you, we have found no one thing more *safe* and *effectual* than super-phosphate of lime, either as liquid manure or as a thin top dressing.

The time of applying such manures depends upon circumstances and the wishes of the operator; for instance, in the cases of the Geranium the object is not large, handsome leaves, but large, fine-bloomed trusses, and plenty of them, with the smallest amount of rather small, but healthy foliage. If these are the aims the plants will want little water in winter, and that should be *pure*, and no manure water in spring and summer until the flower-buds are perceived, after which the giving of it will secure strength and size to the blooms, but if made too strong will be apt to run the colours. Again, here is a large Fuchsia bush that we have slightly pruned, and which we wish to be a mass of bloom all over say in May and June. We keep it coolish and dryish in winter, shake away a good part of the old soil in February or March, and replace with new, and water a little, but give no manure water until the flower-buds begin to appear, as that might increase too much mere vigorous growth. But here is a tiny little plant that we keep over the winter, only with more care, and we wish that to get a fine specimen before the end of the summer. Growing is here a matter of first moment; and as soon, therefore, whether in hothouse or window, as we can give it the conditions that will encourage healthy growth from that time, we will treat it to frequent manure waterings. Where there is the command of a hothouse or hotbed fine plants may thus be made in one season; but they will not be so long lived and continuously healthy as those that have been grown more slowly, with little but sun heat and the protection of glass to encourage them.

3. The answer as to guano has already been given. Err on the safe side. A clever fellow took a little guano between his thumb and two fingers, and spread it over the surface of the soil of some nice Fuchsia plants in eight-inch pots, and in a week all the leaves dropped.]

WINTERING VERBENAS AND OTHER BEDDING STOCK.

"What are we to do with our young stock now that they are rooted and many potted off? How and in what places are we to keep them, *Verbenas particularly?* It is easy to strike these, but very hard to find room for them when potted off. Such is the constant cry of amateurs who have not sufficient room or facilities for wintering them. If then, Mr. Editor, besides the usual suitable and fit winter quarters for such, you would suggest some *make-shifts* for amateurs to use, and give some pertinent hints as to how we are to avoid damping off, &c., you will have done good service to the many.

"There is another matter which I would seek information on, namely, many of my pots have the surface of the mould therein, and particularly the peat mould ones, covered with small granulated white substances like small grains of rice. I would inclose a little, but suppose it would be crushed. Though I cannot as yet perceive any injury to the plants growing in the pots thus infected more than being an eye-sore, I should be glad to have your opinion on the subject, so that I might abate the nuisance if it was likely to be injurious."—An Amateur, *Waterford.*

[In the first place we cannot make suitable room where there is none; and, in the second place, we have lately described how best to keep them in windows, and decidedly preferring small young plants to the healthiest old ones. We have little to add to these besides the fact, that in the largest places, except those so happily circumstanced as to have a place for everything, there is the same chronic complaint for want of room. Now, one means of gaining room is never to think of potting off many autumn-struck plants at all. As to Verbenas we never think of such a thing. Independently of many standing in cold pits, where the little slips were inserted at once in sandy soil in September, and where they will stand protected by glass all the winter, we have a good number, pretty well enough for a stock in spring, standing in five-inch pots, each pot containing from twenty to thirty stiff, robust plants, and in these pots they will very likely remain until March or April, and then have all their heads taken off to yield an additional supply. All that is necessary to keep these in robust health and vigour over the winter is plenty of light and air; a temperature from 35° to 45°, 40° being a good average; an atmosphere, if in a room, not over dry; and just a sufficient supply of water to keep them all growing slowly.

We do not think we can say more in the way of merely keeping these plants, but a description of how some one else manages will frequently impart more knowledge than mere preceptive detail. Some years ago we described some of the processes resorted to so successfully by "Mrs. Think-in-time," and we may merely say she has improved upon them since then. The good lady does not only supply her rooms and windows as usual, but she now finds plants sufficient for decorating a small flower garden and keeping it well supplied. She manages this with the extra assistance of a two-light garden frame and a little sweet hot dung in spring, a few handlights, half a dozen or more of bell-glasses, and, *what is the chief thing, an old lumber room* some twelve feet square, and having, besides a tiny grate about nine inches wide in a corner, a window facing the south fully six feet in height and four feet in width. It was the situation of the window that decided the turning the lumber room into a windowless closet, though any other aspect except the north, and with a proportion of south in it, would have answered just not quite so well. As economy had to be studied, and mere neatness and elegance were matters of little moment, a strong table was formed of rough, unplaned boards, and so high that the top of the table was six inches below the window-sill. The table was four feet and a half long and four feet wide. The feet at the two ends were fastened by nails to a stout piece of board, and underneath that board longitudinally were fixed the two halves of a stout young ash tree, split up the middle to serve as axles, the ends being rounded to receive four wheels (made by simply cutting four circles) six inches in diameter, out of an ash board an inch and a half thick, and then a small circle being made in the centre to permit of its being put on the rounded end of the axle-tree, and kept there with a peg or nail. You had a table you could move backwards and forwards at your pleasure. At each end of the table, and within fifteen inches of the side next the window-sill, two strong boards, a foot in width and three feet in height, were fastened perpendicularly, and between these two boards shelves ten inches wide, one placed eighteen inches higher than the window-sill, and another fifteen inches above it. These shelves held two rows each of the larger-sized 48 pots, or what across the rim would be five inches in diameter. Here store pots of Verbenas, Calceolarias, and young Geraniums of the florist and fancy kinds found a home. There were grooves cut into the two end upright pieces, so that when the plants were in very small pots, or newly potted off into 60's, there could be four shelves used instead of two. The front of the table was appropriated to young plants that required most

light, or any particular favourite specimen Geranium; the back part with things that required less light, and that were allowed to remain in rather a dormant state in winter. The bottom of the room and open shelves round its sides supplied wintering room to Fuchsias that had lost their foliage, scarlet Geraniums in pots and boxes from which the foliage had been removed, pots of the *Begonia Evansiana*, pots and tubs of fine Hydrangeas, roots of large-growing Lobelias, as *fulgens* and *St. Clair*, and lots of Dahlias and *Marvels of Peru* in dry earth and sand. The rough table and its shelves, as well as the room, get a brush over every year in autumn with quicklime wash, which keeps all sweet, and helps to scare all kinds of mildews and damps. Air is given liberally by the window and door whenever the outside temperature averages 40°. When below 38°, or very windy, more sparingly; when a frosty wind, only a very little, to change the atmosphere of the room, and that chiefly by the doorway. The plants on the shelves, and also on the table, being a fair distance from the glass, a degree or two of frost out of doors will not hurt them. When more than that is expected the table, with its bookcase-like shelves, is easily moved on its wooden wheels by a young lady at each end, who take an interest in the welfare of the plants. When near the middle of the room, and the shutters put to, it is seldom that 5° to 8° out of doors will reach them, especially if the sun shines into the room during the day, when, of course, the table and its burden are moved again to the window.

When the frost is continued and severe not only are the plants kept at a distance from the window, but a fire of coke and cinders is made in the little grate, and when that is properly lighted a damper is placed in the chimney to moderate the draught, allow the smoke and gases to escape, and yet throw most of the heat into the room. This, even in the muggiest frosty weather, will cause a circulation of air, and lest a continuance of these tiny fires should too much dry the atmosphere a tin vessel with a larger spout than a common tea-kettle is placed over the fire, and, though the water is seldom near the boiling point, a considerable quantity of vapour is thrown into the atmosphere of the room, cool enough before it comes in contact with the plants to do them any injury, whilst it mollifies the dry air that so often obtains in dry frosts. These may furnish hints for improvement, if not for imitation.

White granulated substances on the surface soil of the pots.—We suspect that these are funguses in some of their multitudinous appearances, and liable to do harm, especially in winter. If the weather is dry and sunny the moving what you could away and then watering with lime water would very likely cause the warted appearances to cease; but at this season, and especially in dull weather, and the plants are not thoroughly established, the lime water may be too much for them. In that case remove the surface soil, stir up what is left with a pointed stick, and replace with fresh soil, holding in it a good sprinkling of charcoal dust and just a little floury quicklime.]

TO CORRESPONDENTS.

Wintering Bedding Geraniums (*G. R. T.*).—Either your frame or rooms will do. If you use the frame refer to our No. 469, page 309, for full directions how to act. If you use your rooms refer to our No. 372, pages 106—108, where the information is more copious than we could give here. See "Our Letter Box" to-day for an answer to your other query.

Acorns of the Cork Oak (*Suber*).—Consult Messrs. Carter or any other London seedsman as to their value. It is unusual for the tree to bear acorns in this climate; but many plants have been induced to flower for the first time in this country by the late glorious summer.

Covering of Vine Border (*J. S. L.*).—Why not give it a thin covering of leaves or dung, and then put the *frigi domo* over that?

No. 381.—*F. E.* will give *one shilling* for a copy of this number of The Cottage Gardener.

Culture of Amaryllids (*J. Gunson*). — In our 236th number, pages 6 and 7, you will find, under the head "Hippeastrum," what Mr. Beaton has said upon the subject.

Concreting a Vine Border (*N. S.*).—At pages 41 and 42 of this volume are details of concreting the *bottom* of a border, if that is what you mean, and where, also, hints as to the formation of a border will be found. There are various articles on the subject in preceding volumes. About six parts of gravel free from mud and clay, but with a portion of sharp sand if procurable, with one part of quicklime slacked, and enough of water to mix into a mortar, are the ingredients. Lay it down quickly two or more inches thick, and it will make a firm concrete bottom, through which the roots will not easily penetrate. The border must be thoroughly drained, and care must be taken that the Vines do not want for water in summer. Two feet of good fresh soil will be a medium depth.

Vines (*J. Macmeckan*).—We think your position will be against you unless you use glass, and especially as they have not ripened in such a season as this. The high trellis to the east and the high wall to the west must prevent you having much sun in your twenty-four-feet space unless at midday. What would you say to bringing the rods of your Vines under the glass frames? That is practised hereabouts with great success, and we shall have something to say about it ere long. We have no objection to your wash except the aloes. Take care you do not overdo it with them. We have seen Vines killed to the bottom from *nux vomica* being boiled in the paint composition. They got strychnined. We can give no more information about the *Esperione*, but hope Mr. Beaton will shortly do so. We have had *Sweet-water* fine in London by merely drawing our dry hands over the bunches when in bloom, and the *White Muscadine* without that trouble. Were your bunches shaded by the frames and pits? The *Black Hamburgh* ripens well every year under glass, and this year we know of some noble specimens grown by Mr. Weaver on a south open wall. We recommend you to grow a *Black Hamburgh* and a *Black Champion*.

Berberis Darwinii. — Rustic Adornments (*Amateur, Waterford*).—Small side-shoots of *B. Darwinii* slipped off with a heel strike best any time in summer, covered with a bellglass and kept cool. Perhaps you kept your slips too moist, or so damp that they rotted from want of air at times. We shall do something one of these days about rustic ornaments.

Names of Plants (*H. H.*)—The Fern is the *Asplenium flabelliforme*, a very pretty greenhouse Fern, and useful for baskets. The other pretty little plant has often been mentioned under the name of the Artillery plant, and called *Pilea muscosa* or *Thelygonum cynocrambe*, a very interesting little plant for the stove. The Cactaceous plant is one of the Opuntia family, probably *Opuntia ficus Indica*, but we cannot be certain of this from a bit so small. (*E. S.*).—*Ipomæa quamoclit*. (*D. McEwen*). *Phytolacca decandra*, or Virginian Poke. (*J. L.*).—*Cerinthe major*, a garden annual.

Geraniums (*Marie Louise*).—They will not endure the winter out of doors. Leave your Belladonna Lilies undisturbed, and if the soil is light, well-drained, and not manured, they will bloom next year probably.

Conifers (*G. M—x*).—The best descriptive catalogue was published by Messrs. Knight and Perry. There is one also in the "Journal of the Horticultural Society." The Rhyncospermum will do very well in your cool conservatory.

Braken, or Pteris aquilina (*P. B.*).—The following is extracted from the second edition of "The British Ferns," just about to be published at our office:—

"If cultivated it must be grown in a deep sandy soil, and in the shade, or the specimens will not be fine. It should be covered over with leaf mould every winter, for the roots are very liable to suffer from severe frost. To protect them further, and, indeed, for ornament, let the dead fronds remain until the spring. To propagate it take up the creeping main root early in spring, have the ground trenched ready, draw drills about two inches deep, lay the roots along the drills thickly, and cover them with the soil."

Names of Fruit, &c. (*A Constant Reader*).—The names of the Pears sent you by a country nurseryman are all correctly spelt except *Ne Plus Meuriss*, which should be *Ne Plus Meuris*, and *Bury de Esperarce*, which should be *Bezi d'Esperen*. Your friend's connections in Canada will be greatly disappointed when they see the produce of the seed sent them. After waiting for nearly half their lifetime they may be rewarded for their patience by nothing better than crabs. Some Peaches will reproduce themselves from the stone; but no person except those who try to raise new varieties ever think of obtaining fruit trees from seed.

Grapes out of doors (*J. Noble*).—Your Grapes are certainly very fine, very large, and well coloured, with a flavour superior to many grown under glass, and do great credit to you, and to our excellent correspondent "Upwards and Onwards," whose instructions, as given in Vol. XVII., page 170, you say you have followed. Those from the same Vine which were not subjected to the same treatment are small, and sour as crabs.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder Cirencester.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 8th and 9th. Crewe. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th, and 13th, 1858. Crystal Palace. *Sec.* Mr. W. Houghton. Entries close December 12th.

January 13th and 14th. Dublin. *Secs.*, T. M. Hutton and R. P. Williams, Esqs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 18th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

LIVERPOOL POULTRY SHOW.

We regret to see that this is fixed for the same days as the Nottingham, namely, the 20th, 21st, and 22nd of January, for they must injure each other. The prizes are most liberal, varying from £10 to £1, and there is a class for "100 Game cocks at £1 each," the first prize of which is £40, and the seventh prize £5. This class is already closed, and there will probably be such a show of Game cocks as never before was seen. We have great pleasure in publishing the following extracts from a letter we have received from Mr. Moss, one of the Secretaries:—

"I have the pleasure of inclosing a proof of the schedule of the Liverpool Poultry Show, which I trust will be considered liberal, as we have gone as far as prudence would sanction even when coupled with economy, our prize-list showing £318 given, whereas our receipts can only reach £275 supposing all our available space to be occupied.

"We may, perhaps, be considered bold in rendering ourselves personally liable, but as we consider ourselves morally so we think it but right that the public should feel no apprehension on that score, especially as I am informed compromises are now the order of the day.

"Our reason for abolishing chicken classes is, that at the advanced period at which our Show is held chickens can in nearly every instance compete with adult fowls.

"We have also in our list endeavoured to award prizes in each class proportionately as it has supported us on past occasions, and we hope that, although the prize-list may not be approved of by all, it will meet the sanction of the majority.

"The Liverpool Committee have been occasionally censured when really no cause existed, and it is most disheartening to those who work hard and sacrifice their time and comfort to find their efforts counterbalanced by some discontented person, whose pleasure appears to consist in finding fault.

"Such complaints, when unfounded, only prevent those persons from taking an active part who would otherwise do so, and are not only unjust to the Committee, but prejudicial to shows generally."—Gilbert W. Moss, *Hon. Sec.*

FEATHERS.

I should be glad to hear, through the medium of your valuable paper, a good definition of laced, spangled, and pencilled feathers. I have some pencilled fowls now in my possession, but people tell me they are too much laced, and yet they are not what I have always understood to be laced feathers. What I understood to be laced are feathers with a half moon at the point and edged round; spangled feather a half moon at the point, the rest clear; pencilled feather, barred evenly black and white; so how can such a feather, be called laced? and such is the case with mine. But I most decidedly say they are not laced when they are barred with black and white; but yet I am told they are so, and they say the same with the spangled fowls, when if you take a single feather it is as good a spangle as you would wish to see.—An Inquirer.

[If you will spend sixpence on "The Poultry Book for the Many" you will there find very correct drawings and descriptions of the three feathers you name.

A *laced* feather has a narrow border all round its edge, differing in colour from the ground colour of the feather, but *no* moon on the tip.

A *spangled* feather has a moon on the tip, differing from the ground colour of the feather, but no border round this.

A *pencilled* feather has dark bars in parallel lines across the lighter ground colour of the feather. There is neither a spangle at its tip nor a border round its edge.]

BIRMINGHAM FANCY PIGEON SHOW.

This took place on Monday, October 26th, 1857. Judge, T. J. Cottle, Esq., Cheltenham.

Plate, value £3, to the exhibitor taking the greatest number of prizes, awarded to G. C. Adkins, Esq., Edgbaston.

Ditto, value £2, for the second greatest number, awarded to E. A. Lingard, Esq., Birmingham.

Powters.—First, J. Firth, Esq., Halifax. Second, G. C. Adkins, Esq., Edgbaston. Highly Commended, F. G. Stevens, Esq., Hemyock. Hen Highly Commended, J. Smith, Esq., London. Hen Highly Commended, C. R. Titterton, Esq., Birmingham. Commended, J. Firth, Esq., Halifax. Cock Commended, E. A. Lingard, Esq., Birmingham.

Carriers.—First, E. A. Lingard, Esq., Birmingham. Second, G. C. Adkins, Esq., Edgbaston. Highly Commended, F. G. Stevens, Esq., Hemyock; J. Percivall, Esq., Harbourne. Commended, C. W. Burningham, Esq., London; H. Holdsworth, Esq., Halifax.

Almonds.—First, E. A. Lingard, Esq., Birmingham. Second, F. G. Stevens, Esq., Hemyock. Highly Commended, G. C. Adkins, Esq., Edgbaston; J. Smith, Esq., London.

Mottles.—First, F. G. Stevens, Esq., Hemyock. Second, E. A. Lingard, Esq., Birmingham. Commended as Almond-bred Mottles, F. G. Stevens, Esq.

Baldheads.—First, G. C. Adkins, Esq. Second, E. A. Lingard, Esq.

Beards.—First, J. Smith, Esq., London. Second, G. C. Adkins, Esq. Commended, J. Percivall, Esq., Walworth; T. Hives, Esq., Cotgrave, Notts.

Owls.—First and Second, G. C. Adkins, Esq. Highly Commended, C. R. Titterton, Esq.

Nuns.—First, G. C. Adkins, Esq. Second, J. Percivall, Esq. Commended, Miss Milward, Newton St. Loe; Mr. J. W. Edge, Birmingham; Mr. A. P. Presdee, Birmingham.

Fantails.—First, C. R. Titterton, Esq. Second, G. C. Adkins, Esq. Commended, G. C. Adkins, Esq.; F. G. Stevens, Esq., Hemyock.

Jacobins.—First, G. C. Adkins, Esq. Second, F. C. Esquilant, Esq., London. Highly Commended, Mrs. Brooke, Chelmsford; J. Percivall, Esq., Walworth; F. G. Stevens, Esq.

Turbits.—First, C. R. Titterton, Esq. Second, G. C. Adkins, Esq. Commended, H. Holdsworth, Esq., Halifax; G. C. Adkins, Esq.; A. P. Presdee, Esq.

Trumpeters.—First, F. G. Stevens, Esq., Hemyock. Second, Mrs. Brooke, Chelmsford. Commended, J. E. Mapplebeck, Esq.

Archangels.—First, G. C. Adkins, Esq. Second, Miss Milward, Newton St. Loe.

Barbes.—First, G. C. Adkins, Esq. Second, F. G. Stevens, Esq. Highly Commended, F. G. Stevens, Esq. Commended, J. Percivall, Esq., Harbourne.

Runts.—First, P. H. Jones, Esq., Fulham. Second, E. A. Lingard, Esq. (Hen much out of condition.) Commended, F. G. Stevens, Esq., Hemyock; C. R. Titterton, Esq.

Dragoons.—First, C. W. Burningham, Esq., London. Second, Mrs. Brooke, Chelmsford. Commended, J. Percivall, Esq., Walworth.

Any other variety.—First, Mrs. Brooke, Chelmsford (Magpies). First, F. A. Lavender, Esq., Biddenham. First, John Percivall, Esq., Harbourne (Magpies). Commended, F. Stevens, Esq., Hemyock (German Turbits and Hyacinths); J. Percivall, Esq., Walworth.

The Judge begs to state the birds in the great majority of the classes are of *a very superior description*, and the entire Show highly creditable.

LIGHT TO THE LOWER PENS AT BINGLEY HALL.

The time for holding the great and important Poultry Exhibition at Birmingham is now fast approaching; and although, perhaps, rather early in the winter to expect the adult birds to have so far recovered their plumage after moulting as to show to advantage, the chickens, judging from the last few Exhibitions, will probably be the best which has yet taken place.

The great disadvantage of winter shows generally is the want of sufficient light in the buildings in which they are held; but in this respect Bingley Hall is well adapted for the purpose, having a number of skylights in the roof, and if the avenues could only be made wider, so as to allow the light to penetrate into the *lower* tier of pens, it would, I am sure, save the Judges a great deal of trouble which they have hitherto been necessarily put to, as it is almost impossible to discern the merits or demerits of some of the occupants. When exhibitors pay the high entrance fees which are now generally charged they have a *right* to expect that their birds will be placed in a position so as *fairly* to compete with those in the same class, and this can only be done by adopting the plan which has been successfully carried out at several shows during the present year of showing all in one class in the same tier of pens, and not place them in both upper and lower pens, as has been the

case previously at Birmingham. If any of the Committee will take the trouble to try the experiment, by placing two Dorking cocks of equal size one in a top and the other in an under pen, it will at once be seen that the former has the appearance of being from one to two pounds heavier than the latter, an advantage, where size is a requisite, which one pen ought not to have over another. The labours attending an exhibition are undoubtedly great, but it is well worth while to take a little extra trouble to prevent dissatisfaction at any of the arrangements.—Amicus.

DORCHESTER POULTRY EXHIBITION.

October 29th.

There is a great charm in old friendships, and it is indeed a pleasure when we meet a friend but once in a year to find that time deals gently with him, and that the past year has left no traces of its passage. This is the most we can expect in our fellow creatures, with whom gradual decay is inevitable, and a law to which we must all succumb; but with many of the events of life age may be only an improvement, and the experience of the past may tend only to the perfection of the present. It is so with the subject we have now to treat of—the Fifth Exhibition of the Dorsetshire Association for the Improvement of Domestic Poultry. It was held in the usual locality, and it need hardly be said that the arrangements were perfect when we reflect they were entirely under the superintendence of Mr. Andrews, so well known not only as the early and successful breeder of Cochin-Chinas, but also as one of the best and most experienced judges in England.

If ever a Society had reason to congratulate itself on having accomplished the object it had in view the Dorsetshire Association may do so. Those who recollect the early days and the birds that were shown, the ease with which the prizes were awarded, and the marked difference between the successful and unsuccessful pens, and compare them with the Show of which we treat, will concur in the truth of our remark. This was essentially a Show of first-rate birds. One remark more will lead us to the description of the classes, to which we refer our readers for the verification of our assertion. This Show is supported by *all* the surrounding nobility and gentry. Not only do they contribute to it liberally, but they also attend it in person, and evince the interest they take in this pleasing pursuit. The tempting case containing the pieces of plate looked like a small silversmith's shop. The same good arrangement that pervaded other departments was visible here. The winners of the different articles are at liberty to change them at the shops where they are purchased for any others of the same value. As the prize-list is published in full we shall content ourselves with noticing those classes and pens which were sufficiently meritorious to demand it.

The four successful pens of *Spanish* come under this head. It was a hard run between Messrs. Botham and Fowler, but the superiority of the cock in the latter pen decided it in his favour. There is immense progress made in breeding the chickens, and the prize birds were beautiful. The adult *Dorkings* were deeply in moult, but the chickens left nothing to desire either in health, size, or really high condition. The honours gained by the prize birds are enough to satisfy the successful, but it is due to the highly commended to say that their birds were unusually meritorious. The improvement in the size of the *White Dorkings* was as visible here as it has been at most recent shows. Good *Cochins* are looked for in Dorsetshire, and there were hens and pullets, especially those belonging to Mrs. Fookes and Messrs. Bartrum and Goodenough, of surpassing merit and beauty; but there is an evident lack of good cocks, especially among the chickens. The *Grouse* and *White Cochins* were not numerous, but they were good. In the former it is manifestly difficult to get cocks with pure black breasts, and in the latter the adult birds differ from Malvolio—they do not like yellow stockings. The *Brahma Pootras* were very good, and the Judges declared them to be "admirable classes." Those belonging to Messrs. Manning and Botham were perfect. There is no county which shows so many good *Malays* as Dorsetshire, and the reputation was well sustained. They were perfect: we cannot say more, except that they brought sixteen pens into competition. The *Game* fowls were not so good as we have seen them. One of the best pens, Piles, shown by the Rev. Mr. Cruwys, was disqualified, being wrongly entered. Had they been in their proper place a very different fate would have been theirs, as they were excellent birds. Among the *Spangled Hamburghs* there were many good birds, but we are more particularly bound to mention the cup pen of *Silver* belonging to Mrs. Pettat. The cock is nearer to perfection than any bird we ever saw. Mr. Bartrum's old birds are also very good. The *Pencilled Hamburghs*, twenty-seven pens, were so good that they gave the Judges much trouble. The Rev. T. L. Fellowes took the cup for *Gold*, and Mr. Archer cup, first, and second prizes for *Silver*. We think these three pens are destined to a long career of success. Among the *Polands* those most worthy of especial mention where good birds were plentiful were Mrs. Pettat's and Mr. Coleridge's *Golden*, and Mr. P. Jones's *Silver*. Mrs. Pettat's *Golden* chickens are the best we ever saw in our experience of shows. Mrs. Mills's *Silver* chickens are also very promising. All the *Bantams* were good, and were pronounced meritorious. The various class brought birds deserving of much commendation, especially the *Polands* belonging to Mrs. Mills, and Mr. Fellowes' *Black Hamburghs*. Mr. Fowler showed two *Geese* weighing 48 lbs., and perfect in every other respect. We need hardly add they took first prize; the whole class was capital. This gentleman showed the heaviest *Ducks;* but not exercising sufficient care in selecting a drake with the proper bill, he had to give precedence to lighter birds belonging to Mr. Ford. It may suffice to speak in terms of eulogy of all the *Ducks* shown.

We will conclude by repeating that the object of the Society is fully carried out, and by thanking Mr. Andrews for his urbanity and unwearied zeal. All the birds were sent off in the evening after the Show closed.

The Judges were H. Hinxman, Esq., and Mr. Baily.

PIECES OF PLATE.

A Piece of Plate, value £5, given by the Earl of Ilchester, patron of the Society, to the owner of the best pen of Dorking fowls, Mrs. Henry Fookes, Whitchurch.

A Piece of Plate, value £2 10s., given by J. J. Farquharson, Esq., President of the Society, to the owner, being a resident in the county of Dorset, and the breeder of the best Cinnamon or Buff Cochin-China cock of not less than one year old, to Mr. W. Manfield, jun., Dorchester.

A Piece of Plate, value £2 10s., given by J. J. Farquharson, Esq., President of the Society, to the owner, being a resident in the county of Dorset, and the breeder of the best Dorking cock of not less than one year old, to Mr. W. L. Henning, Frome House.

A Piece of Plate, value £3, given by Sir E. B. Baker, Bart., vice-President of the Society, to the owner of the two best pens of Ducks (Aylesbury and Rouen), to Mrs. H. Fookes, Whitchurch.

A Piece of Plate, value £3, given by H. N. Middleton, Esq., High Sheriff of Dorset, for the best pen of Spangled Hamburgh fowls, to Mrs. Pettat, Ashe, near Micheldever.

A Piece of Plate, value £5, given by G. Sturt, Esq., M.P., to the owner of the best pen of Spanish fowls, to Mr. J. K. Fowler, Aylesbury.

A Piece of Plate, value £5, given by the Hon. W. H. B. Portman, M.P., to the owner of the best pen of Game fowls, to Mr. W. Manfield, jun., Dorchester.

A Piece of Plate, value £2 10s., given by J. Ensor, Esq., Mayor of Dorchester, for the best pen of Bantams, to Mr. J. Goodenough, Godmanstone.

A Piece of Plate, value £2 10s., given by R. B. Sheridan, Esq., for the best pen of Golden-pencilled Hamburghs, to Mr. T. L. Fellowes, Acle, Norfolk.

A Piece of Plate, value £2 10s., given by R. B. Sheridan, Esq., M.P., for the best pen of Silver-pencilled Hamburghs, Mr. E. Archer, Malvern.

A Piece of Plate, value £2 10s., given by N. Sturt, Esq., M.P., for the best pen of Brahma Pootra fowls, Mr. G. Botham, Wexham Court.

A Piece of Plate, value £2 10s., given by N. Sturt, Esq., M.P., for the best pen of Malay fowls, to Mr. W. Manfield, jun., Dorchester.

A Piece of Plate, value £5, given by G. W. Digby, Esq., of Sherborne Castle, to the owner of the best pen of Cochin-China fowls, to Mrs. Fookes, Whitchurch.

A Piece of Plate, value £3, given by H. Williams, Esq., for the best pen of Poland fowls, to Mrs. Pettat, Ashe, near Micheldever.

Spanish.—First, Mr. J. K. Fowler, Aylesbury. Second, Mr. G. Botham, Wexham Court. Highly Commended, Mr. J. K. Bartrum, Bath; Mr. C. T. Nelson, Birmingham. *Chickens of* 1857.—First, Mr. P. H. Jones, Fulham. Second, Mr. J. K. Fowler, Aylesbury. Highly Commended, Mr. G. W. Locke, Newport, Isle of Wight.

Dorking (Coloured).—First, Mr. G. Botham, Wexham Court. Second, Mr. G. S. Fox, Wellington, Somerset. Highly Commended, Mr. W. L. Henning, Frome House; Mrs. A. G. Brooke, Chelmsford.

Commended, Mrs. H. Fookes, Whitchurch. *Chickens of* 1857.—First, Mrs. H. Fookes, Whitchurch. Second, Mr. C. R. Titterton, Birmingham. Highly Commended, Mrs. H. Fookes, Whitchurch; Mrs. Pettat, Ashe, near Micheldever; Mr. G. Botham, Wexham Court. Commended, Mr. John Hussey, Crewkerne. (Very good class.)

Dorking (White).—First, Captain J. Beardmore, Uplands, near Fareham. Second, Mr. W. Symonds, jun., Milborne St. Andrew. Commended, Mrs. Mills, Bisterne, near Ringwood. *Chickens of* 1857.—First, Mrs. H. Fookes, Whitchurch. Second, Mr. W. Symonds, jun., Milborne St. Andrew. Highly Commended, Mrs. Besant, Milborne St. Andrew. Commended, Capt. J. Beardmore, Uplands. (Unusually good class.)

Cochin-China (Cinnamon and Buff).—First, Mrs. H. Fookes, Whitchurch. Second, Mr. J. K. Bartrum, Bath. Highly Commended, Mr. J. Goodenough, Godmanstone. *Chickens of* 1857.—First, Mrs. H. Fookes, Whitchurch. Second, Mr. J. Goodenough, Godmanstone. Highly Commended, Mrs. H. Fookes, Whitchurch; Mr. H. Loe, jun., Appeldurcombe. Commended, Mrs. H. Fookes, Whitchurch; Rev. T. H. Roper, Eton, Windsor; Mr. H. Loe, jun., Appeldurcomb. (An excellent class.)

Cochin-China (Brown and Partridge-feathered).—First, Mr. B. J. Ford, Ide, near Exeter. Second, Mr. G. F. Hodson, North Petherton. *Chickens of* 1857.—First, Mr. G. F. Hodson, North Petherton.

Cochin-China (White).—First, Mr. J. K. Fowler, Aylesbury. Second, Mr. H. Loe, jun., Isle of White. *Chickens of* 1857.—First, Mr. H. Loe, jun., Isle of Wight. Second, Mr. J. K. Fowler, Aylesbury. Commended, Mr. C. R. Titterton, Birmingham.

Brahma Pootra.—First, Mr. F. Manning, East Bergholt. Second, Mr. W. Manfield, jun., Dorchester. *Chickens of* 1857.—First, Mr. G. Botham, Wexham Court. Second, Mr. F. Manning, East Bergholt. Commended, Mr. W. Manfield, jun., Dorchester; Mr. F. Manning; Mrs. E. Shepherd, Brixton. (An admirable class.)

Malay.—First, Mr. W. Manfield, jun., Dorchester. Second, Mr. C. Ballance, Taunton. Commended, Mr. W. Manfield, jun., Dorchester. *Chickens of* 1857.—First, Mr. W. Manfield, jun., Dorchester. Second, Mr. J. J. Fox, Devizes. Highly Commended, Mr. W. Manfield, jun.; Mr. Charles Ballance. Commended, Mr. J. J. Fox; Mr. W. Rogers, Woodbridge. (Best class the Judges ever saw.)

Game Fowl (Black, Black-breasted, and other Reds.)—First, Mr. W. Manfield, jun., Dorchester. Second, Mr. J. T. Ensor, Dorchester. *Chickens of* 1857.—First, Mr. J. T. Ensor, Dorchester. Second, Mr. C. R. Titterton, Birmingham. Highly Commended, Mr. T. H. D. Bayly, Biggleswade; Mr. E. Archer, Malvern. Commended, Mr. J. T. Ensor, Dorchester.

Game Fowl (any other colour).—First, withheld. Second, Mr. W. Manfield, jun., Dorchester. *Chickens of* 1857.—First, Mr. J. T. Ensor, Dorchester. Second, Mr. J. Dominy, Cerne.

Hamburgh (Golden-spangled).—First, Mr. C. J. Down, Chippenham; Second, Mr. C. E. Coleridge, Eton, Windsor. *Chickens of* 1857.—First, Mrs. H. Fookes, Whitchurch. Second, withheld.

Hamburgh (Silver-spangled).—First, Mr. J. K. Bartrum, Bath. Second, withheld. *Chickens of* 1857.—First, Mrs. Pettat, Ashe, near Micheldever. Second, Mr. T. L. Fellowes, Acle, Norfolk. Highly Commended, Mrs. Pettat, Ashe, near Micheldever.

Hamburgh (Golden-pencilled).—First, Mr. T. P. Mew, West Cowes, Isle of Wight. Second, Mr. W. Manfield, jun., Dorchester. *Chickens of* 1857.—First, Mr. T. L. Fellowes, Acle, Norfolk. Second, Mr. J. J. Fox, Devizes. Highly Commended, Mr. C. J. Down, Chippenham; Mr. G. Botham, Wexham Court; Mr. E. Archer, Malvern.

Hamburgh (Silver-pencilled).—First, withheld. Second, Mrs. Mills, Bisterne. *Chickens of* 1857.—First and Second, Mr. E. Archer, Malvern.

Polands (Black with White Topknots).—First and Second, Mr. T. P. Edwards, Lyndhurst. *Chickens of* 1857.—First, Mr. H. Loe, jun., Appeldurcombe, Isle of Wight. Second, Mr. G. Ray, Minestead.

Polands (Golden-spangled).—First, Mrs. Mills, Bisterne, near Ringwood. Second, withheld. *Chickens of* 1857.—First, Mrs. Pettat, Ashe, near Micheldever. Second, Mr. C. E. Coleridge, Eton, Windsor. Highly Commended, Mr. J. J. Fox, Devizes. (Class of unusual merit.)

Polands (Silver-spangled).—First, Mrs. Pettat, Ashe, near Micheldever. Second, Mr. B. J. Ford, Ide, near Exeter. *Chickens of* 1857.—First, Mr. P. H. Jones, Fulham. Second, Mrs. Mills, Bisterne, near Ringwood. Highly Commended, Mrs. Pettat, Ashe, near Micheldever. Commended, Mr. T. P. Edwards, Lyndhurst.

Bantams (Gold-laced).—First, Mr. J. Goodenough, Godmanstone. Second, Mr. M. Leno, jun., Harpenden, Herts. Highly Commended, Mr. J. Goodenough, Godmanstone. Commended, Mr. G. Cruwys, Tiverton.

Bantams (Silver-laced).—First, Mr. T. H. D. Bayly, Biggleswade. Second, Mr. M. Leno, jun., Harpenden, Herts.

Bantams (Black, White, or any other variety).—First, Mr. J. K. Bartrum, Bath. Second, Capt. J. Beardmore, Uplands, near Fareham. Highly Commended, Mr. T. P. Mew, West Cowes, Isle of Wight. Commended, Capt. J. Beardmore, Uplands, near Fareham.

For any other pure-bred variety not before mentioned.—First, Mrs. Mills, Bisterne, near Ringwood. Second, Mr. T. L. Fellowes, Acle, Norfolk. Commended, Mr. W. Manfield, jun., Dorchester.

Geese (of any breed).—First, Mr. J. K. Fowler, Aylesbury. Second, Mr. W. Manfield, jun., Dorchester. Highly Commended, Mrs. H. Fookes, Whitchurch.

Ducks (Aylesbury).—First, Mr. J. B. Ford, Ide, near Exeter. Second, Mr. J. K. Fowler, Aylesbury.

Ducks (Rouen).—First, Mr. J. K. Fowler, Aylesbury. Second, Mrs. H. Fookes, Whitchurch. Highly Commended, J. Hussey, Crewkerne, Somerset. Commended, Mrs. H. Fookes, Whitchurch.

Ducks (any other variety).—First, Capt. J. Beardmore, Uplands, near Fareham. Second, Mr. J. K. Fowler, Aylesbury.

Turkeys (of any breed).—First, Mrs. H. Fookes, Whitchurch. Second, Mr. W. Manfield, jun., Dorchester. Highly Commended, Mr. W. Symonds, jun., Milborne St. Andrew.

Extra Stock.—Commended, Mr. J. T. Ensor, Dorchester, for a Golden Cock Pheasant.

Prolific Canary.—One of my Canary birds with which I have been breeding this season has laid the following unusually large quantity of eggs:—First nest four; second, third, and fourth, seven each; and six in the fifth, which produced the following variety of birds, namely, clear Jonque and Mealy Variegated ditto, Solid Greens, Jonque and Mealy Cinnamons. She was a remarkably good rearer, bringing her broods out early and strong.—E. Bull, *Sneinton.*

OUR LETTER BOX.

Buenos Ayres Ducks.—"In all, or nearly all, the prize-sheets of the different Poultry Shows I refer to I see prizes offered for all the different breeds of fowls, and for Aylesbury and Rouen Ducks, but none for the Buenos Ayres. They most unjustly have to compete in a class with Call Ducks and all sorts of mongrels, and at some shows they have not even this chance, as there is no various class for ducks. Now, I want to know why this valuable breed of ducks should not have a class to themselves, as then they would be bred much more extensively. Although they are small they are as good-flavoured as any others, and lay as many eggs, eat less, and are as beautiful, if not more so than any others."—Justitia.

[We think Buenos Ayres and Call Ducks should each have a class at exhibitions. They are both excellent as table poultry, full-flavoured, yet much milder to the palate than the larger varieties.]

Roupy Hamburgh Pullet (*G. R. T.*).—If she has the roup treat her as thus directed in "The Poultry Book for the Many," which you ought to have. It is only sixpence. "Wash the head daily, or twice daily, with tepid water. Give of sulphate of copper one grain daily, mixed in oatmeal mashed with ale, and plenty of green food. Separate the fowl from all others. If not better within a week kill the fowl."

Manchester Purchasers.—Another clergyman writes to us thus:—"The letter of 'Clericus' reminds me that I had a like application, soon after the Crystal Palace Show, from *Manchester.* The address given was *Hulme Street.* I was, thanks to The Cottage Gardener, forewarned, and replied nearly as 'Clericus,' and with exactly the same result."—A. B.

Broken Spur.—"Will you inform me whether the loss of a spur broken out of the leg of a Game cock through fighting will disqualify him or injure his chance for a prize?"—W. H. B.

[Such an accidental loss could only interfere with the probability of success where competition was so close, that it was almost impossible to decide between two pens. A similar trifle would then tell against the defective bird. It is, however, most unlikely.]

Diseased Rabbits (*A Correspondent*).—The reason of the disease in your rabbits I should attribute to damp, and in order to be free from this disease for the future I should have your hutches raised in front, so that all damp might run off behind. If the hutches have backs about half an inch should be taken off the level with the floor, so that all damp might run off the hutches, and then by having a box made the length of the hutches, which should be well tarred inside, and placed under the back, all the urine would run off into it, and might be removed and cleaned out two or three times a week. This, together with a warm shelter and good and *regular* feeding, will insure success for the future.—Percy Boulton.

LONDON MARKETS.—November 2nd.

POULTRY.

The supply is still greater than the demand. The autumn has not brought the usual improvement in the trade.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	2s. 3d. to 2s. 9d. each.
Smaller do.	3s. 6d. to 4s. 0d. ,,	Pigeons	9d. to 10d. ,,
Chickens..	2s. 3d. to 2s. 6d. ,,	Rabbits ..	1s. 4d. to 1s. 5d. ,,
Geese	6s. 6d. to 7s. 0d. ,,	Wild ditto ..	10d. to 1s. 0d. ,,
Ducks	2s. 6d. to 3s. 0d. ,,	Pheasants ..	0s. 0d. to 3s. 0d. ,,
Hares.....	2s. 6d. to 2s. 9d. ,,	Partridges	1s. to 1s. 6d. ,,

Turkeys.....6s. to 9s.

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WEEKLY CALENDAR.

D M	D W	NOVEMBER 10—16, 1857.	WEATHER NEAR LONDON IN 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
10	TU	Perennial Sunflower.	29.544—29.413	45—25	N.	01	12 a. 7	16 a. 4	0 9	24	15 54	314
11	W	Leadwort.	29.480—29.348	45—34	N.	07	14	15	1 24	25	15 48	315
12	TH	Indian Scabious.	29.735—29.682	44—30	N.	—	15	13	2 38	26	15 40	316
13	F	Dark Foxglove.	29.863—29.796	45—36	N.W.	04	17	12	3 50	27	15 32	317
14	S	Antirrhinums.	30.006—29.849	42—25	N.	—	19	11	5 2	28	15 22	318
15	SUN	23 SUNDAY AFTER TRINITY.	30.040—29.989	43—23	W.	02	21	9	6 15	29	15 12	319
16	M	Tansy-leaved Ox-eye.	30.249—30.130	47—22	N.	—	22	8	sets.	●	15 1	320

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 50.4°, and 35.6°, respectively. The greatest heat, 63°, occurred on the 12th, in 1841; and the lowest cold, 15°, on the 16th, in 1840. During the period 94 days were fine, and on 102 rain fell.

PRUNING THE VINE.

I SAID the usual practice of pruning the Grape Vine in this country is contrary to the theory on that subject, and that many of our best gardeners are well aware of the fact, or, in other words, are behind the scenes, and know both sides of the question, but without influencing their practice. I also confessed I was one of that number, but I forgot, at the time, that Sir Joseph Paxton in some of his works said that the theory of Vine pruning, as explained by the best authority in England, was "a baseless theory," or some short words to that effect, which I am quite certain I have read somewhere. I also said that I planted a Vine in 1852 on purpose to try this question; that I fruited the Vine this season on various plans of pruning, five different ways; and it will be in your recollection that I asked so many gardeners by name, and all the rest of them and of amateurs "in the lump," which of four out of the five ways ought to produce the heaviest bunch of Grapes, the best coloured, and the ripest.

The shoot then bearing No. 4 bunch was fifty-two joints long, and Nos. 1, 2, and 3 bunches were on shoots that were stopped one, two, and three joints beyond the bunch. I had a great number of letters, but as no names were to be mentioned I shall only classify the answers I had.

To stop a Vine shoot at one, or two, or three eyes beyond the bunch is immaterial according to these "returns;" but the best practice, or rather the most successful practice, of the present day is to stop the shoot just one inch beyond the bunch. The best of some of the Grapes at Willis's Rooms were thus stopped. That class is, therefore, settled. The great battle is in the next class of pruning, that is, pruning according to the theory of the thing, whereas I began with stopping at five joints beyond the bunch, and ended at fifty, or fifty-two joints rather, but say from five to fifty.

One of the best Grape growers in England told me before two witnesses, in the centre of the terrace gardens at the Crystal Palace, that my No. 4 bunch ought to be the worst I had if it had the longest shoot *beyond* it. One of the best of the Judges in Willis's Rooms told me the same thing, and he had seen my Grapes. Another gardener a long way in the country, who has written on the Vine, and is considered such a good authority that he is sent for by committees all over the country to be one of the Judges of their shows—this good practical Judge wrote to say that my No. 4 ought to have the largest bunch—just the very contrary to what the Judge at Willis's would have. But hear his whole letter: "My opinion respecting your Grape Vine question is this—No. 1, or top bud, first ripe and best colour; No 4 the largest bunch." There was not another word in the letter.

These are the two extremes in this class, and there is a half way between them. Another excellent gardener, who gives his name below without any hesitation, says, "Curiously enough, I have on my outdoor Vines nearly a fellow experiment to your own. I have twenty examples merging from four to thirty buds stopped beyond the fruit; thirty examples from one to two buds stopped beyond the fruit; and upwards of forty examples stopped at three buds beyond the bunch. The kinds are the *Sweetwater* and the *Black Esperione*. According to the best of my judgment the earliest by a few days, and the best coloured, are those with thirty eyes before them, and trained vertically; but for size of bunch, or for the quantity of fruit to be grown upon a given space, *recommend me to No. 1 trained horizontally.*" The italics are my own.

Another very instructive letter I must also quote from. It is about an old *Black Cluster* plant which yielded no fruit for seven years. A young experimentalist, who is well known in THE COTTAGE GARDENER under a fictitious name, then took the management of the old Vine, which was against a south wall. "I got rid of the old branches as soon as possible, and brought up young shoots from the old stumps, which produced the following year, but the fruit did not ripen properly (the garden is in Wiltshire). The next year I had more shoots, more Grapes, and better ripened; still it was all trouble for a mere nothing, and I began to think the cause was my own inexperience. I therefore changed sails, and began a different practice. I thinned the bunches freely, allowed one bunch only to a shoot, stopped a few at a few eyes from the bunch, and the rest were not stopped till the end of August. Those shoots which were not cut back produced the best berries and the best bunches decidedly, and this year the Grapes were ripe about the middle of September, and a fast amateur has pronounced them first-rate for the kind of Grape. Another point I have observed is this—the bunches which are shaded by the leaves from the direct midday sun are not affected with the rust, as some of those that have been exposed are. As it is possible I may be called upon to cultivate the Grape on a large scale out of doors shortly I shall watch your proceedings with interest."

There is but one more statement in all the letters I received which is of public interest; but I will first state that the last two letters here quoted made me alter my promise to bring the shoots with the bunches attached to the fruit meeting of the Horticultural Society, as my experiment is corroborated in both. I also refused bunches of Grapes on the shoots for the purpose of corroborating the experiment. The statement I allude to is this: "Out of twenty examples growing before me, the larger (longer) the branch the lesser the bunch. The bunches on the spurs that are shortened to three or four eyes must of necessity prove monopolisers of all the good things which reach them." This sentiment, in one form or another, is repeated in two-thirds of the letters which were sent to me, and is in direct opposition to the theory of Vine pruning—the "baseless theory," as Sir Joseph Paxton said.

Now let us turn to this theory of Vine pruning and see what it is. "If all the leaves which a tree will *naturally* form are exposed to *favourable influences*, and

receive the light of a *brilliant sun*, all the fruit which such a plant may produce will ripen perfectly in a *summer that is long enough.*" That is the first axiom, and the italics are my own through all of them, that I may point to them more particularly. "*Naturally*" will not apply to a Vine growing in an artificially-made rich border; it is stimulated to make more leaves than are natural to it. "Favourable influences" mean, with us, no late spring frosts or very cold winds when the Vine is breaking, or should be coming into leaf, and a long warm summer season like the one we have just gone through. "Brilliant sun" we never see, and "summer that is long enough" is very seldom, if ever, an English summer; therefore the first essential clause in this theory has many valid exceptions in England. Secondly. If all the leaves of a tree are exposed to such influences all its fruit will advance as far towards ripeness as the length of the summer will admit of; it may be sour and colourless, but that condition will be perfect of its kind. Thirdly. "But if all the fruit which a healthy tree will show *is allowed to set*, and a large part of its leaves is abstracted, such fruit, be the summer what it may, *will never ripen.*"

"Allowed to set" means, here, allowed to remain on the tree, as the whole crop of Grapes out of doors in many places is allowed to go without thinning, and the summer dressing of the Vines must of necessity "abstract" a large amount of leaves: such Grapes "never ripen." Fourthly. "Therefore, if a necessity exists for taking off a part of the leaves of a tree, a part of its fruit should also be destroyed." This is the common practice of good gardeners, and the next proposition explains it. Fifthly. But although a tree may be able to ripen all the fruit it shows, yet such fruit will neither be so large nor so sweet, under equal circumstances, as if part of it is removed, because a tree only forms a certain amount of secretions; and if those secretions are divided among twenty fruits instead of ten, each fruit will in the former case have but half the amount of nutrition which it would have received in the latter case." And sixthly, "The period of ripening in the fruit will be accelerated by an *abundant foliage* and *retarded by a scanty foliage.*"

We often hear it said that such a person is too theoretical and not to be depended on; but there never was a greater misuse of our language. No man on earth was ever, or can ever be, too theoretical. The word theory means the *true nature* of things or thing, or anything, and the cause of effect can never be known too much to mortal man. What they mean is, that such and such a man is too hypothetical—too much given to surmising, or guessing, or taking things for granted without knowing their meaning or nature, or practical bearing. Theory is the perfection of human understanding, and if it is not so, it is not theory. We hear of unsound theory. There never was such a thing: what is not sound amounts not to theory. Then the question is this—Does the above constitute the theory of Vine culture? I believe so, and I shall attempt to explain the mind and practice of gardeners on these principles, and reconcile if I mistake not, although the tenor of the correspondence anent my own experiment might very naturally lead the uninitiated portion of our readers to conclude that theory and practice were in direct opposition to one another, but I have no space to-day for this part of my subject. I shall, therefore, finish with a "true and particular account" of my experiment and the result.

Between 1829 and 1836, or say seven years in the prime of life, I carried on extensive and some very expensive experiments on the Vine for an ardent physiologist and a good practical botanist, my employer, a friend and neighbour of the late Mr. Knight, of Downton Castle, with whom "we" were in constant correspondence. "Our" theory of the extraordinarily productive *Esperione* Vine which I told of the other day was, that one-half of its length and height was entirely free from fruit every year according to the style of pruning, which I explained. During these seven years and the next three years I learned all that I know of the nature and practice of the Vine and its culture; also the nature and culture of bulbs all but two points; but I could not *see* a flower-bed then; I could only look at it as others look at the moon. To look at a thing and to see the same thing are two very different operations. Well, I think I can now see flower-beds, bulbs, and Grapes, if I see nothing else in a garden—I am sure of it in one sense but I can also foresee some things, and I foresaw a difficulty which was sure to arise at Willis's Rooms respecting my Grapes, and to prepare for it was the reason for "bringing out" that article on the said *Esperione* at the beginning of the week. The *Esperione* is from a self-sown seed of the *Black Hamburgh* at Kensington, where it was pointed out to Mr. Aiton, one of the royal gardeners, who first brought it into notice as a more hardy *Black Hamburgh* than its parent, and, to make it more acceptable, its raiser named it *Esperione*, the meaning of which I never heard. Mr. Williams, of Pitmaston, received it from Mr. Aiton, and gave it to my employer for his experiments, and for fifteen or sixteen years neither he nor any other person who saw it could distinguish it, in any stage of its growth, from a *Black Hamburgh*, except in its hardier constitution, which makes it three weeks or a month earlier than its parent.

Last year my Grape ripened just as well as it did this season, and as well as I ever knew any Grape to ripen in the open air. As we shall see presently that made me believe that I had the true *Esperione;* but I have altered my opinion of it from the experience of this season, when, if it were the *Esperione*, I ought to have had it ripe by the middle of September; but I will give it the benefit of one of the best clauses in my bill. Mr. Snow, gardener to Earl de Grey, who is one of the very best and most successful growers and exhibitors of fruit for the last twenty years, declared positively before nine experienced exhibitors and two first-rate nurserymen, of whom Mr. Veitch was one, that my Grape is the *Esperione;* another of the gardeners as positively affirmed that it is the *Black Prince;* another that it is certainly the true *Black Hamburgh;* and a fourth assured the rest it is nothing else but the *Cambridge Botanic Garden Grape*, a kind which was first introduced, I think, in Lindley's "Guide to the Orchard." Each and all of them tasted the Grape, turned my best bunch over and over, and held it up between him and the light, smacked his lips, and insisted on it that no other Grape than the kind he named could come to such perfection in the open air.

But two hours previously to this, and before the general public were admitted, I had four of our best gardeners to examine my Grape, not one of whom would decide what kind it is. Three of them did not know the *Esperione;* the fourth said he did, and that mine was much more like a *Black Hamburgh* than like the *Esperione*, therefore he must be unacquainted with the latter. One of them said the bloom and colour put him in mind of the *Purple Constantia* of the Cape, which is, or was, much grown at Welbeck; another said it was more like the *Duke of Newcastle's Black Cluster*, a kind I never heard of before. I had five bunches (the best was just 1 lb. 1 oz.), and the shoot was fifty-two joints long; this was my bunch No. 4, being the fourth bunch below the top bunch. The three bunches above it were stopped at one, two, and three eyes beyond the bunch, and they weighed just 40 ozs. between them. The four bunches on this shoot and two more bunches lower down were the same in every respect of colour, size, bloom, and flavour; but when they began to turn colour No. 4 was one week or nine days in advance of the rest, but in the course of five weeks it had no more advantage than

size, exactly as one of my correspondents predicted—the one who came nearest the mark, and whose letter of the 28th of September I shall inclose to the Editor, that I may not even seem to have the least partiality either one way or the other. I had five other main shoots of last year's growth in fruit under the experiment, and each of them turned out exactly like this one. The longest shoot of the five was thirty-five eyes long, and the bunch weighed 15 ozs., full. The next was twenty-five eyes, the next fifteen, and so on; but the scales alone could tell the difference in all of them, and three of them were sent to a dinner party without being weighed: the smallest bunch on the Vine was over 11 ozs. They were very regular all over. Next week, or the one after, I shall tell how the Vine is treated, and how I think all Vines out of doors would pay best, give my opinion and my very best thanks to my Woodstock correspondent, and my blessing to all who had a finger in the pie. D. Beaton.

[Mr. Aiton, writing in the Horticultural Society's Transactions, iii., 93, where a coloured drawing is given of this Grape, says, "I first noticed the *Esperione* Grape about the year 1804 in the catalogue of Mr. R. Williams, the respected nurseryman at Turnham Green. Struck with the novelty of the name I procured from him three healthy Vines, which were planted the same year in His Majesty's gardens at Windsor in a south aspect, and 800 square feet of wall were allowed for their culture. This space was completely covered in the fourth year, and since that time the plants have always produced and matured large crops of fruit. Unfavourable as was the last season (1817) they ripened about 1200 bunches of well-coloured Grapes. The *Esperione* is prolific to an extraordinary degree, very hardy, and of most luxuriant growth, perfecting its fruit equally well and early with the *Sweetwater* and *Muscadine*, and in unfavourable seasons has a decided advantage over these varieties, and, indeed, over any other hardy Grape that I am acquainted with. The wood of this Vine is strong and high-coloured; the buds are large, round, and woolly. The fruit is produced on large bunches, handsomely shouldered, differing little in size from the *Hamburgh*. The berries vary much in size, being sometimes round, frequently flat-rotund, and indented on the head with the remains of the style. A groove or channel is often observed on one or both sides, decreasing from the head downwards. The skin, which is covered with a thick blue farina, is of a deep purple colour, inclining to black. The flesh adheres to the skin, and, though neither high-flavoured nor melting, is pleasant. The leaves are variously cut, and die upon the tree of an orange hue. I have no doubt that it is the same Grape as *Turner's*. Langley has figured it in his 'Pomona,' plate 45, but without giving a description."

Lindley, in his "Guide to the Orchard," copies the above, but gives no additional information. In the "Catalogue of the Horticultural Society" it has the synonymes "Hardy Blue Windsor, Turner's Black, Cumberland Lodge, and Red Port (of some)." With regard to the name we believe it to have reference to its being raised from seed here in the west, *esperios*, in Greek, being *westerly*.—Ed. C. G.]

REMARKS ON A FEW WINTER FLOWERS.

I have before adverted to the forcing of hardy shrubs, and now intend to point to a few features of culture in some other adjuncts to the forcing house, and which may be made to blossom from the end of November to the end of March—some longer still.

Camellias.—Some desire the blossoms of Camellias in March and April rather than in the autumn; others from November onwards: to the latter I, for the present, address myself. When Camellias are well managed, however, there is no difficulty in getting a collection of even a dozen bushes to blossom from the beginning of November until the middle of April. I have a house which thus blossoms every year, and during the period I have alluded to produces thousands of flowers. Thus has it succeeded for many years, and at this period, October 16th, it is more full of blossom-buds than ever, and many just on the eve of opening; some few blossoms have already expanded. These trees were forced into wood in May, and, the buds being as large as Marrowfat Peas by Midsummer, they were placed out of doors in the early part of July, and housed in the early part of September. From the period at which they were turned out they have constantly had the benefit of weak liquid manure, but so weak that the water is just fairly coloured by it, and they will continue to receive it through most of the winter. I may now allude to the treatment such require during the blossoming season, for this is somewhat important. In order to continue a succession of blossoms a certain average of temperature is necessary, and were I to fix a uniform standard I should say 50°. But days and nights differ, and ought to do; therefore let us say night minimum 35°, maximum 45°; day minimum 40°, maximum 60°. And here let me point to ventilation matters. However much young growing stock of Camellias may enjoy a closed and damp atmosphere, I am assured that as liberal a ventilation as the weather will permit should be exercised towards those blossoming. It will be found that they expand with more boldness, their markings are better, and the colours more vivid; added to this they will endure longer. But there exists yet another reason for a liberal ventilation: it is indispensable that no drip lodge on the flowers, or floating vapours become condensed. The dissipation of confined vapours depends on two powers acting in concert, viz., heat and ventilation; in other words, a motion promoted in stagnant atmospheres and a means of escape for the vapour, which, otherwise condensing by contact with the cold roof, must descend in the form of drip. In order, therefore, to encourage this ventilation a sufficient amount of fire heat must be had recourse to. Liberal waterings must be given, and will be required if the plants are in health and are right at the root; if not it is difficult to advise. The chief point after these matters are attended to is to be cautious in the use of much fire heat, and to endeavour at all times to fall back on as low a temperature as the weather and the condition of the plants will permit.

Violets.—Another winter pet, and, albeit not a greenhouse shrub, as Camellias, &c., yet must not be neglected if a continual produce is looked for. I have been in the habit of producing winter Violets for thirty-five years, and have, therefore, had ample means for watching their habits. As to their habits as a wild plant on the hedge back, Nature has provided for them; but they become so modified in character by attempts to what we call force them, that a little nice handling becomes requisite. I have at this time a four-light pit planted with balls of earth in the end of September, and they are the finest lot of Neapolitans I ever saw, being now covered with their sweet and exuberant blossoms. These were early runners planted out in the end of April; they are now compact little tufts, and have a comfortable home in a good brick pit, but devoid of any artificial heat. They have been once well watered, and it is extremely probable they will have no more. But let us look into the requisites for their winter management. The first thing to be secured is an immunity from frost. It does not signify their being subjected to a low temperature every night; such is, indeed, desirable; but they will not endure frost as to

the blossoming principle. I am here speaking of the Neapolitan Violet, for no other will force so successfully, as far as I am aware, in frames or pits. Let me, then, suggest a standard of temperature; I will merely point to that proper to obtain if possible. From the early part of November, then, to the end of February I should desire from 40° to 55° by day, and 34° to 40° by night. But we all know that such precise conditions are not easily attainable: all I can say, then, is, approach this standard as nearly as possible, only do not let them freeze. But there is another feature attending the culture of winter Violets which is of equal importance to any other condition; it is this—the avoidance of damp. To this they are very liable, especially after being shut up for days, as in the case of snowy periods and those of intense frost. And I may here remark that the more gross the plants are, the more liable are they to a kind of putrefaction in the foliage. This is to be particularly guarded against, for it spreads like wildfire, and if not checked will speedily undermine the utility of the plants. Dryness of the internal air of the frame or pit is, therefore, one of the leading features in Violet culture, and must be promoted by all means in our power. This caution at once points to the reason why, as I stated in the outset, but one watering had been given the pit to which I alluded. Therefore, to plant them in a tolerably dry or mellow medium, and to sustain them afterwards with as moderate an amount of water, is one of the grand points to aim at. And let no man be alarmed at their looking dry or husky on the surface: this is just as it should be, for the Violets are not merely blossoming through the soil they are in, but through a disposition which has been engendered in them during the outdoor summer culture.

Once more let me direct attention to their ventilation: nothing requires more of this than the Violet. On all occasions, therefore, let even the very lights or sashes be pulled off in the daytime, providing they neither freeze nor receive any rain, or otherwise that there be no cutting winds.

Lily of the Valley.—This, although a common border plant, is a great favourite with the ladies in early spring, but it is by no means an easy affair to force it early. Strong crowns are indispensable, and these must be sought for by high culture during two seasons previous to the forcing period. The roots may be taken up in the end of October and sorted, selecting the thick buds with their roots as entire as possible, and reserving the smaller for succession buds if necessary. The strong roots may then be placed in pots as thickly as possible, and afterwards plunged overhead in cinder ashes, and removed to heat as requisite. A moderate heat suffices for them: from 60° to 70° maximum of bottom warmth, and an air heat of 50° to 55° will be better than more, as they are apt to draw, or grow up weakly. They should be plunged overhead in old tan, or any other light material, until the stems are fairly through the soil, and then the surface covering removed in order to stiffen the shoots. One caution here is necessary—they must not be exposed to light suddenly. When first removed from the covering their stems will be whitish, and it requires a week to inure them to the light, and this must be done gradually, or the shoots will suffer. Afterwards they may be placed in any situation indoors, even under the greenhouse stage. By these remarks it will be seen that a bottom heat is essential, and that beyond that they demand little except an immunity from the frost. The soil at all times must be kept moist; they abhor drought.

Chrysanthemums.—These do not belong strictly to the forcing category, but they are in the main indoor plants, and most important in these days to the winter decoration of the plant house and the drawing room. At this period they are, of course, all housed, and their growth having been completed, it only remains to offer a few remarks on their management through the winter. In the first place they love a liberal amount of moisture at the root, and liquid manure given clear is highly conducive to size in the flowers, and also to their retention of their foliage. A very moderate temperature is necessary; with much heat they soon go out of blossom. From 35° to 50° is sufficient; but, although they will bear a little frost, it is not advisable to submit them to it. A dry condition of air is indispensable; the least lodgment of damp on the expanded blossoms soon rots them or hastens their departure. To this end it becomes necessary to use fire heat irrespectively of frost, in order that a liberal ventilation may be sustained. The decaying blossoms must be constantly removed, as also decaying foliage, for when once a leaf has begun to decay it never returns to its green condition. If it be necessary to retard them a little shading may be occasionally used; but it must not be on for a long period continuously, or the foliage will assuredly become discoloured. One thing I may name as of importance to the size and style of the flowers—the buds may be thinned when as large as pin heads. This, however, must be done with reference to the kinds; some produce them thicker than others.

Lachenalia.—This is a most interesting family of bulbs, and well qualified to give an extra feature to the plant house in early spring. There are several kinds, but even the old *L. tricolor* is a most interesting plant. These bulbs, after flowering from February to nearly May, die down, like Crocuses, about Midsummer, and until that period require proper care in order that their foliage does not decay prematurely. After this they are allowed to become perfectly dry in their pots, which may be laid on their side, if necessary, in any shed. Towards the end of August they will begin to sprout again, when they should be taken out of their pots, the soil entirely disengaged, and the bulbs sorted; the larger put in pots for blossoming, the smaller potted for a succession stock. Henceforward they may be placed in any warm corner of the greenhouse, and receive moderate waterings, for they cannot endure excess of moisture. I may shortly say more about forced or winter flowers.

R. Errington.

SHRUBLAND PARK.

(*Continued from page* 35.)

In general cases the first duty of a gardener is to provide his employer's table with plenty of good-flavoured vegetables; the second in importance is plenty of good fruit; and the third is abundance of beautiful flowers to crown the whole.

For want of attention to this simple gradation some really clever men have never stayed sufficiently long in one place to test their abilities satisfactorily. Of course, like exceptions to rules, there will be particular cases where this gradation must be modified to suit the tastes and the desires of employers, though, if the gardener is prudent as well as anxious, there will be an ever-growing though insensible influence that will act relatively and correlatively upon the tastes and perceptions of both. Shrubland has long been so associated in our mind with the ornamental in gardening that I feel peculiar pleasure in noticing that, whatever prominence should be given to the flower gardens, conservatories, &c., Mr. Foggo was resolved that fruit and vegetables were not to be neglected.

In unison, however, with our present conduct in this matter, our few recollections of the preparatory workshop will first be directed to the ornamental department, merely premising that we shall make no attempt to describe, number, or name the many houses and pits,

old and new, that are used for this purpose. One thing the visitor *should* notice, namely, that the same amount and quality of conveniences have not always existed at Shrublands, as may yet be seen in the remains of many make-shifts, much, I suppose, as Mr. Beaton left them; such as cold pits walled with furze and branches, and what in the days of dear glass would have been for cold pits—a cheap and make-do-as-much-as-possible mode of glazing, which was simply placing a board or two down the middle of the sash, instead of the usual row of glass. These simple facts may be useful to two classes, which either get into a very satisfied mood as to what they could do if they only had *such* nice conveniences, or who, because they have not got a place for everything, despair, fold their hands, and make no attempt at anything. Let it be clearly understood that fine new places, with every convenience formed at once, are exceptions, and that most gardens that have attained celebrity have reached it by degrees, and after the gardener had done much by mere make-shifts in surmounting difficulties, maturing his own ideas, and acting and being acted upon by the tastes of those who paid for all.

Baskets for Forwarding Conifers, &c.—The growing of such plants in baskets instead of pots is not a new idea, but it is a good one, as, provided the basket is some size, the plants can have all the advantage of house room in their young state, and when desired can be planted out, basket and all, without the roots being matted into a ball, or somewhat injured by disentangling them, so likely to be the result when plants are continued any time in pots. A place was pointed to us between the wilderness behind the panel garden and the long avenue beyond the garden, where a collection was being formed, and where a good specimen of the Wellingtonia was growing. Few of the lumpy-headed Conifers could be introduced into the gardens without interfering with the column-like effect of Cypresses, Junipers, &c.; but in the park, between the lodge and the house, groups of Pinus, Abies, &c., would present a pleasing and distinct feature.

Boxes for Propagating.—The greater part of the cuttings necessary for the flower garden next season were inserted and striking. Pots of Verbenas, the pots brimful, and rather more, of soil and silver sand, were being placed in pits close to the glass, with a moderate heat beneath them, the hardening off being attended to as soon as struck. No doubt they would answer well. We must all break in on our usual practice at times; but, as a general rule, bedding plants are none the worse for being struck in a *cool* place in autumn, and so far from the glass as to require little or no shading. A vast number of the Geraniums, &c., were rooting in wooden boxes, all, so far as I recollect, of one uniform size—a matter of importance as respects packing the boxes in houses or pits. I forget the size, but it matters little, provided it is such that a man may easily lift and move them. Good sizes may run from two feet and a half to three feet and a half long, from eight to twelve inches wide, and from three to four inches deep. I have used them largely for years, having obtained the first hint, and also the using old zinc spouting for a similar purpose, from Mr. Fleming, of Trentham. Mine, however, are of various sizes, and therefore Mr. Foggo beats me in his uniformity. The labourers here in bad weather cut up any rough boards they can get hold of into such lengths as will involve least waste. Suppose the board is eight inches wide, a piece of that width would form the bottom; a similar piece, ripped up the middle, would form the sides of the box.

As I have thus unwittingly said so much I may add that we have a *grand patent mode* of making one of the ends of these boxes (and both might be done so if deemed necessary), which, though exceedingly simple, as all great discoveries are when known, we were years in finding out, and here it is:—The sides being fixed to the bottom, across the open space at one end at least, a stout piece of lath is fixed by a tack in each side. The bit of wood for the end is made to fit in easily between the two sides, but is not fixed. The soil inside and the lath across the end outside keep it in its place; but when you want to take the plants out lift out the end of the box, and you may then get your hand or a neat flat trowel close to the bottom, and the plants are easily moved, with but little injury to the roots. Wherever there is much moving of such great masses of bedding plants the economy of placing the cuttings at once in such boxes will be apparent, to say nothing of the saving of a frequent earthing of pots. Their use at Shrublands is just another proof that many of the largest places are the best schools for studying economy in time and labour.

Plants for Furnishing.—Independently of flower-garden plants and pits full of Hollyhocks from cuttings and seeds, &c., a vast number of plants are turned out in the borders about the houses in the kitchen garden, chiefly for cutting for nosegays. The number of pots required for furnishing the entrance hall and conservatory during the year is also very extensive. We could form some idea of their number from the quantities of white and blue *Campanula pyramidalis*, Balsams, and Fuchsias standing rusticating out of doors after they had done good service, and seeing a Fig house nearly full of Achimenes, &c., drying and perfecting their tubers, as well as from what we noticed coming on, which I will barely specify. Among *Chrysanthemums* of various ages and heights I was chiefly struck with huge symmetrical old plants some three feet in height, and from three feet and upwards in diameter, in pots some thirteen inches in diameter, plunged in a raised border of old tan, but the roots prevented getting into it by the bottom of the pot being supported on two bricks, leaving a hollow opposite the hole in the bottom of the pot, and the plants, by their luxuriance and free setting of buds, showing that they had imbibed something stronger than water.

Carnations and *Pinks* in four and six-inch pots were out of doors and indoors in hundreds, just beginning to spindle up their flower-stems, Mr. Foggo being very anxious to have them early. For this purpose I still think the planting-out mode recommended in this work the best, as then but little forcing is necessary with these beautiful perpetual Carnations. Many pots were also filled with the various Violets to get them in early. Whole pits were filled with well-grown, strong plants of *Primula Sinensis*, and in one house I noticed some large plants of this and the double white and red kinds in 12-inch pots that I had no doubt would be beautiful. Following in the same massive style as to quantity I found one house filled with fine healthy plants of *Salvia splendens* and its spring successor, *S. Gesneræflora*, and large Balsams just coming into flower. Balsams are a striking feature here, grown chiefly in old dung and loam, and assisted very likely with something besides teetotalers' drink, the stems being so stout, and yet the head dense and compact, speaking of every encouragement, and yet abundance of air. One house was nearly full of plants from which the flower-buds had all been removed to cause them to come later. In another house I found some dozens of neat healthy plants of *Thyrsacanthus rutilans*, and in low half-span houses beds of well-grown, healthy plants of such good things for warm conservatories and heated entrance halls as *Eranthemum pulchellum*; *Justicia speciosa* and *carnea*, the latter flowering several times in the year; *Pentas carnea*, *Conoclinium ianthemum*, *Rogiera amœna*, *Euphorbia Jacquiniflora*, *Poinsettia pulcherrima*, *Cestrum aurantiacum*, Achimenes of the later-flowering kinds, and enough to fill two ordinary houses of nice healthy plants of the

Gesnera zebrina in several varieties, some grown with from three to five tubers in a pot, and some very pretty plants with only one stem to a small pot, and the healthy foliage hanging over the sides of the pot. In smaller quantities were other Gesneras; *Impatiens Jerdoniæ;* plants of *Impatiens Hookeriana*, resting so as to be ready to start for the winter; *Coleus Blumei; Cissus discolor* and various Ipomeas; Stephanotis and such plants as *Dioscorea picta* on trellises; *Solanum pseudocapsicum*, Clerodendrums, Ixoras, Aphelandras, with a whole house of Begonias, with great diversity of flowers and foliage, among the latter of which must be enrolled the *rex*, king of them all, exhibited at the Crystal Palace.

In addition to these we found a house appropriated to Camellias, another to Azaleas, and thought what an advantage it was to be able to give them the protection of glass thus early. The plants had fine green foliage, perfectly free of thrips and other evils, which Mr. Foggo secures against by frequent examinations, and smokings, and washings with lime. The buds were already prominent, ready to be forced soon if necessary, and the plants were of all sizes and shapes—squat, tall, pyramidal, and standard.

A large span-roofed house was devoted one half to a plant stove, and the other to a New Holland department. In the first was a good collection of Orchids, stove plants, and Ferns, but as yet the specimens, with striking exceptions, were chiefly small. In the other half Heaths, Epacrises, and other hard-wooded plants were chiefly congregated, and most of the specimens were more distinguished for health than size, but that will come ere long. In other places we found rare Ferns, Lycopods, &c., without number, and whole masses of Gloxinias, &c., drying and ripening for next year. Most of the low houses in which these things are grown are furnished with pipes for bottom heat as well as top heat, and thus most of these plants for decoration are plunged in tan or sand when growing.

Before I conclude this department I would just notice a huge barn of a house for wintering large specimens, such as the Myrtles, Geraniums, Fuchsias, &c., we met with in the flower garden. As *keeping* is here more an object than growing, and to prevent extra expense for fuel, light is admitted only from the south side of a hipped or span roof. All the rest of the building is opaque, with the exception of large windows in the north wall. Standing here already we found a splendid Azalea plant in a tub, growing something in the pointed obelisk style, some nine feet in height, and the square of any of the four sides at the tub being fully four feet.

R. Fish.

(*To be continued.*)

FINENESS OF THE AUTUMN.—SECOND CROP OF FIGS RIPENING.

Few things more denote the fineness of a season than the ripening of such fruits out of doors as only occasionally do so. Outdoor Grapes, where they could be protected from the wasps, have been particularly fine this season, and certain plants have ripened their seeds which do not do so at all times. Some notice has been taken in another place of the Jerusalem Artichoke flowering, but this is not remarkable, as it has done so here at least three or four times in the last ten years; but this season I have gathered a few ripe Figs of the second crop from a tree against a south wall, which I never knew during that time to ripen before; that is, its second crop never ripened before. This I attribute entirely to the fineness of the autumn and previous heat of the summer. Outdoor Grapes have generally been fine where they could be saved from the wasps, but these destructive pests have been very numerous this season. The mildew, which in some other seasons has been fatal to them, has only affected them in certain places, and but very little just around here (Mid Kent).

J. Robson.

HISTORY AND CULTIVATION OF THE VICTORIA REGIA.

"Expanding 'neath a torrid sun,
Where mighty streams through vast savannahs run,
'Mid woods coeval with the land they shade,
And bright-wing'd birds in every sunny glade."—*Hervey.*

We trust a brief essay on the history, introduction, and cultivation of this interesting aquatic will not be altogether unacceptable to some of the numerous readers of your instructive journal. The full and undivided honour of its discovery in 1839 is to be attributed to Mr. Robert Schomburgk, a German naturalist, engaged under the auspices of the Royal Geographical Society in inquiring into and examining the natural productions of British Guiana, and we cannot do better than give this gentleman's account of the discovery in his own words:—

"It was on the 1st of January this year, while contending with the difficulties nature opposed to our passage up the river Berbice, that we arrived at a point where the river expanded and found a currentless basin. Some object on the southern extremity of this basin attracted my attention. It was impossible to form any idea of what it could be, and, animating the crew to increase the rate of their paddling, shortly afterwards we were opposite the object which had raised my curiosity. A vegetable wonder! All calamities were forgotten. I felt as a botanist, and felt myself rewarded. A gigantic leaf from five to six feet in diameter, salver-shaped, with a broad rim of light green above and a vivid crimson below, resting upon the water. Quite in character with the wonderful leaf were the alternate tints from pure white to rose and pink. The smooth water was covered with them, and I rowed from one to the other, and observed always something new to admire. The leaf on its surface is a bright green, in form almost orbiculate, with this exception—opposite its axis, when it is slightly bent up, its diameter measured from five to six feet. Around the whole margin extended a rim about three to five inches high; on the inside light green, like the surface of the leaf; on the outside, like the leaf's lower part, of a bright crimson."

This important announcement produced quite a sensation in the botanical world, and Mr. (afterwards Sir Robert) Schomburgk found himself, on his return to Europe, a courted and distinguished man.

Long previous to this, however, which we term its principal discovery, the plant had been met with and mentioned by several other botanists, but their accounts had remained so much involved in obscurity that even so learned a botanist as Sir R. Schomburgk does not appear to have been cognisant of its having been previously observed. It is said, however, to have been originally discovered by the botanist Hæncke in the Rio Mamore, a tributary of the Amazon, in the year 1801; and we have accounts again of its having been met with by Bonpland in the year 1820 under the name of *Mayz de l'Agua*, and the seeds are mentioned by him as yielding a flour which is formed into cakes that are accounted a delicacy. After Bonpland's notice we have that of D'Orbigny, who observed it about 1827 in a tributary of the Rio de la Plata within the province of Corrientes; and next by Dr. Pœppig in 1832, who mentions having met with it near the confluence of the river Tefflé with the Amazon, and this botanist had conferred on it, we believe, the name of *Euryale Amazonica.*

A shroud of obscurity, however, appears to have enveloped these discoverers, and it was for Sir R. Schomburgk in 1839 to re-discover and give to the world the first popular description of it ever published; and to him, therefore, alone we consider ourselves indebted for this princely addition to the aquarium. His crowning discovery was made in the river

Berbice, a tributary of the Amazon, in latitude 4° 30′ north, longitude 58° west.

Eighteen years have now elapsed since this discovery, and during the interval many individuals have visited it in its native waters, among whom we must not omit mentioning Mr. Spruce in 1849, part of whose animated and glowing description of its appearance, as seen by himself in the tributaries of the Amazon, is well worthy a place in our outlines of its history, and we therefore consider ourselves pardonable for producing it. "The aspect," writes this gentleman, "of the Victoria in its native waters is so new and extraordinary that I am at a loss to what to compare it. The image is not a very poetical one, but assuredly the impression the plant gave me when viewed from the bank above was that of a number of teatrays floating, with here and there a bouquet protruding between them; but when more closely viewed the leaves excited the greatest admiration from their immensity and perfect symmetry. A leaf turned up suggests some strange fabric of cast iron just taken out of the furnace, its colour and the enormous ribs with which it is strengthened increasing the similarity."

The diameter of the largest leaf measured by Mr. Spruce at the time was but little over four feet. This is to be accounted for, however, by his having visited it in a season of the year when it had not yet attained its full development. Sir R. Schomburgk was more fortunate in this respect, for the largest leaf, it appears, that he observed at the time of its discovery was "six feet five inches in diameter, its rim five inches and a half high, and the flower fifteen inches across." Mr. Spruce, however, states that he was informed upon credible authority, by those who had seen it during the winter, when it attains its greatest dimensions, that many of the leaves measured twelve feet in diameter!

We have now traced out so far its history, and regret to say that, owing to a delay in the arrival of some promised information from a gentleman who is in the habit of visiting the plant frequently during his trading expeditions up the Amazon, we are not in a position to offer anything more minute respecting its growth in a wild state. Enough has been said, however, to give a pretty clear idea of its general appearance in a natural condition. And now for its introduction.

This, after many failures, was at last successfully accomplished by raising plants at Kew from seeds brought over by Mr. Bridges from Bolivia, and the secret of his success is to be accounted for by his having conveyed them to this country not in a dry state, but "mixed up in a bolter of damp earth." From the date of this, some eight or nine years since, up to the present time various attempts, more or less successful, have been made to import the seed into this kingdom; and, in fact, we know of a botanical establishment that has been almost annually supplied with seed sent home by a gentleman from the waters of the Amazon.

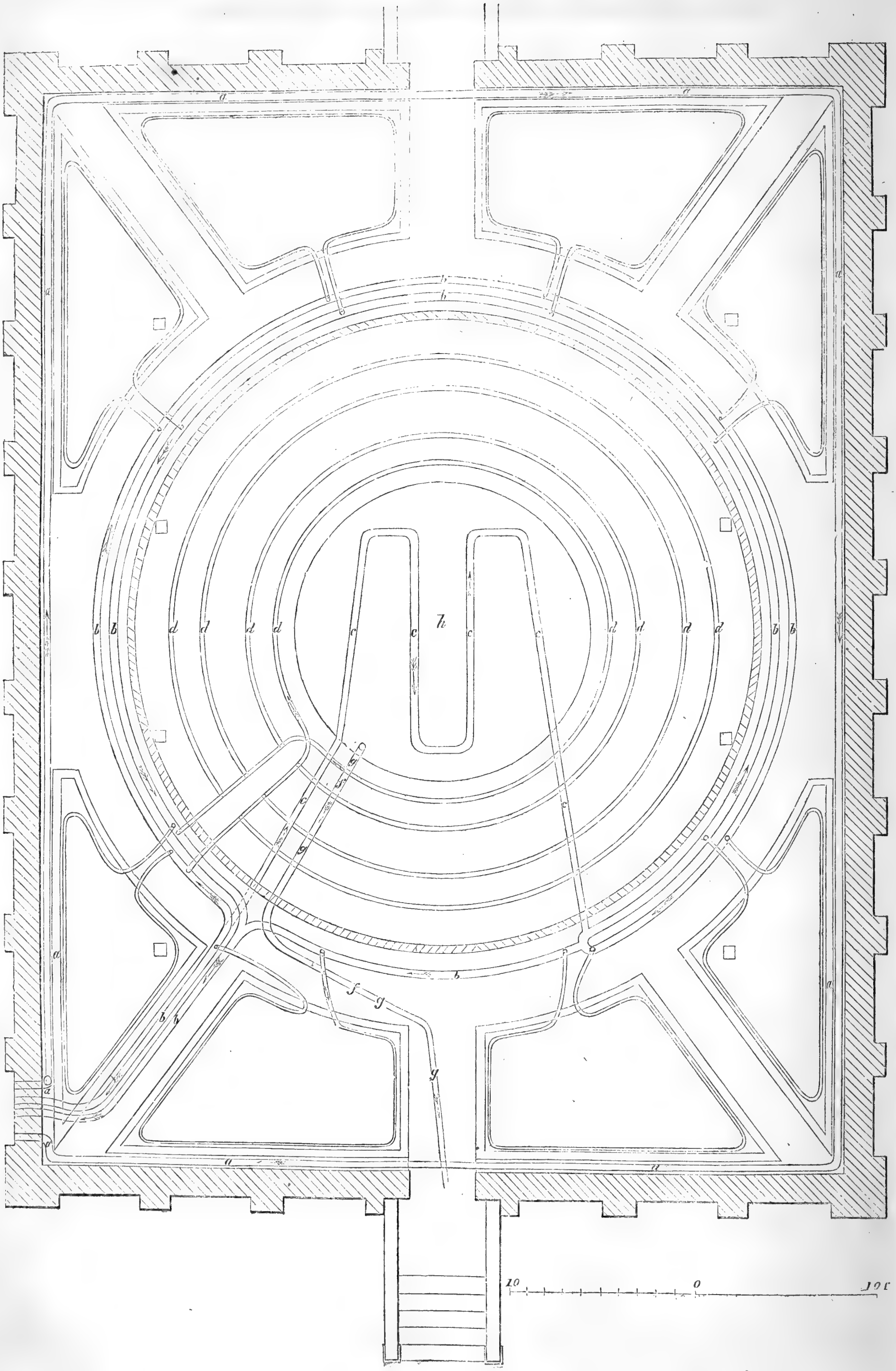
Its importation, too, has not been confined to this country, for most of the chief cities of the Continent—Paris, St. Petersburgh, Berlin, Hamburgh, and others—can now boast of the Victoria in their principal public and private botanical collections. Nor has its introduction been restricted to Europe alone, for the Old World has witnessed, in more quarters than one, this great botanical treasure of the New, and this, be it remarked, chiefly from plants raised from seed grown in, and imported from, England. Even so far back as 1853 we find Sir W. Hooker, in his Report on Kew, stating, "We despatched seeds of the Victoria to various colonies." This plant is now flourishing at Calcutta, in Ceylon, and Trinidad. Nowhere, however, has this splendid aquatic succeeded so well (under glass be it observed) as in the United States, and nowhere has its introduction been so highly prized. The flowers have attained a diameter of seventeen inches, and the leaves of five feet and a half. "The excitement," says our Philadelphia correspondent, "caused by the successful culture of the Victoria Water Lily on our side the Atlantic has been extreme, and every one has declared that the glowing accounts of its beauty have not been at all exaggerated." And, since the date of this, seed has been forwarded, to our knowledge, from various other sources to a number of remote and distant quarters that we could enumerate.

Passing on to the cultivation, we may be allowed, perhaps, to revive on the way the somewhat incongruous, but almost proverbial remark on the other side the Atlantic, that Englishmen as a body are the possessors of an unlimited stock of "national arrogance;" but we may, we think, assert, without being charged with any undue tincture of national egotism, that botany as a science and horticulture as a profession have in no other country or kingdom met with so much encouragement from the great, or received such an amount of adornment from the learned and eloquent, as in our own happy island. No other country has given birth to men equally devoted to the advancement of horticultural knowledge, or who have elucidated so clearly, and practically applied so successfully, the lessons of experience taught by a patient and ingenious investigation into the once mysterious laws of nature; and hence, as in the present instance, to England, and to English enterprise alone, are both eastern and western hemispheres indebted, in the first instance, for the possession, in its present cultivated state, of one of the most beautiful of natural productions. The bare mention in a book of travels of the existence of a plant like the present would have been but a poor gratification compared with the pleasure of being able personally to admire and inspect it; and therefore the successful cultivator has a right to almost equal honour with the enterprising and adventurous discoverer.

Kew and its learned directors claim the honour of having raised the first plants of the Royal Lily that saw the light in this country; but to Chatsworth and its distinguished conductor is attached the merit of first bringing it into full perfection, and, although the cultivation of the plant has extended its ramification far and wide, still we have a right to assume that Chatsworth is remaining, as yet, the head quarters of the plant (at least, so far as its cultivation is concerned) in this country, and this is the subject which must now engage our attention.

By the liberal and very kind permission of Sir Joseph Paxton we are enabled to illustrate our observations by a plan and view of the new Victoria house at Chatsworth, drawn expressly for this purpose by Mr. D. Bryers, of that place; and this "house" is unquestionably an object of deep interest apart from anything connected with the growth of the noble plant; but of this in conclusion. We should not, however, omit to mention here the circumstances under which the plant first flowered in the "old house" at Chatsworth some eight years since. As we before remarked, the credit of first bringing the Victoria into full flower in this country rests with the manager of the Duke of Devonshire's gardens at Chatsworth, and a lengthened account of this interesting occurrence may be found in the principal botanical papers of the day; but it is sufficient for our purpose here briefly to describe, from personal acquaintance, the house and tank in which this great success was accomplished.

This house, or aquarium, is a curvilinear ridge-and-furrow structure of ordinary dimensions, with a tank about three feet deep in the centre and twelve feet square, warmed by a circulation of hot water below. In addition to this a ridge runs round the tank three feet and a half in width, heated by small leaden pipes, and therefore the size of the tank with this ledge may be said to be about nineteen feet square. In one corner a small water-wheel is introduced immediately below the pipe for supplying the tank with fresh water, which keeps it constantly revolving, producing at the same time a gentle rippling motion on the water, which, with the action of the "waste water" pipes, precludes all possibility of its becoming stagnant. The heat, we are informed, at which the tank was usually maintained in the first successful essay at flowering it was from 84° to 85°. At this heat and in this house expanded on the 8th of November, 1849, the first flower of the finest aquatic that has ever graced an European aquarium, and to the energy of the conductor and the liberality of the proprietor of that princely establishment is due the merit of having first brought to its meridian height the cultivation of the plant in this country. During the year succeeding that of its first flowering the new Victoria house was constructed, to afford it more ample accommodation; and this house a distinguished horticultural authority some time since affirmed to be "one of the most extensive and splendid tropical aquariums yet erected," and we might ourselves add that it is not only one of the most "splendid," but one of the most successful houses ever designed for the purpose for which it was intended.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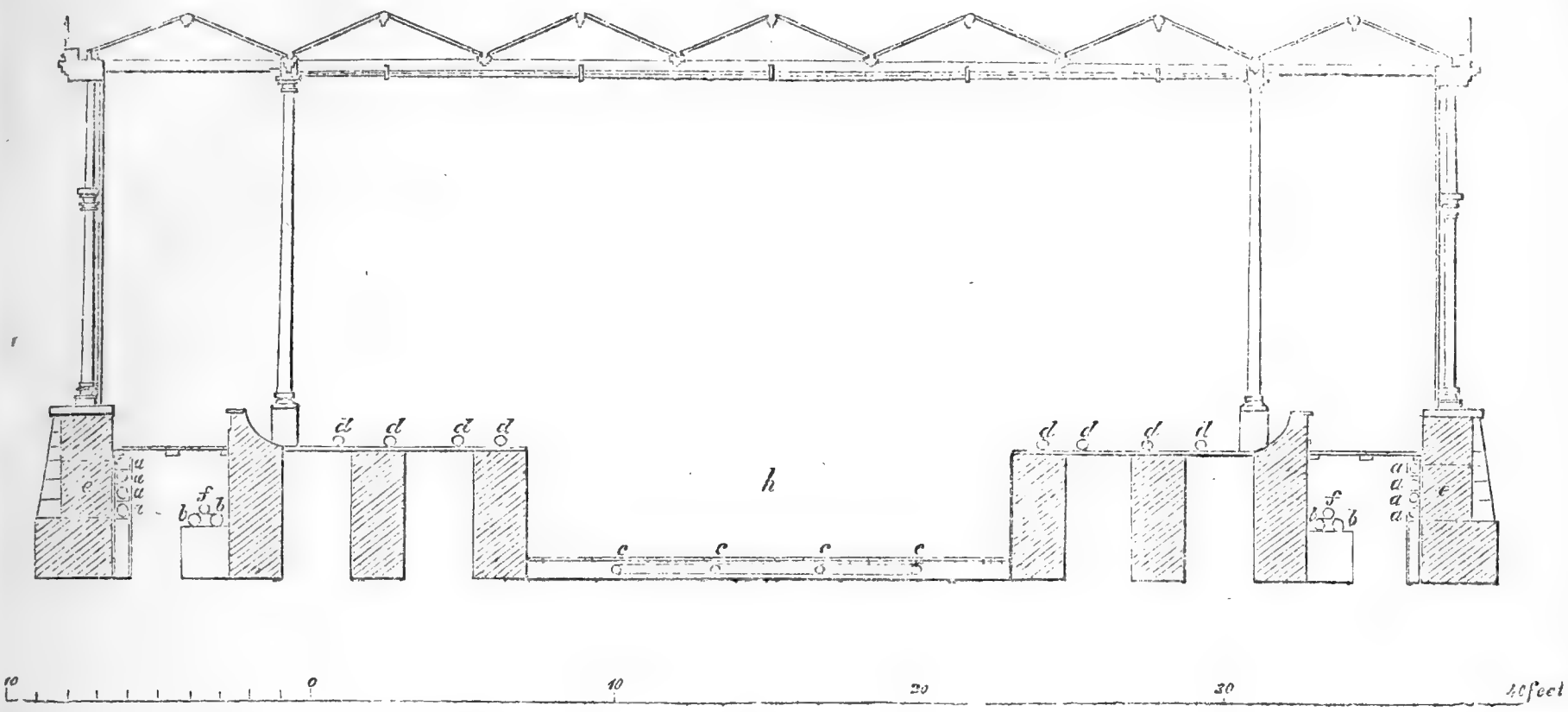
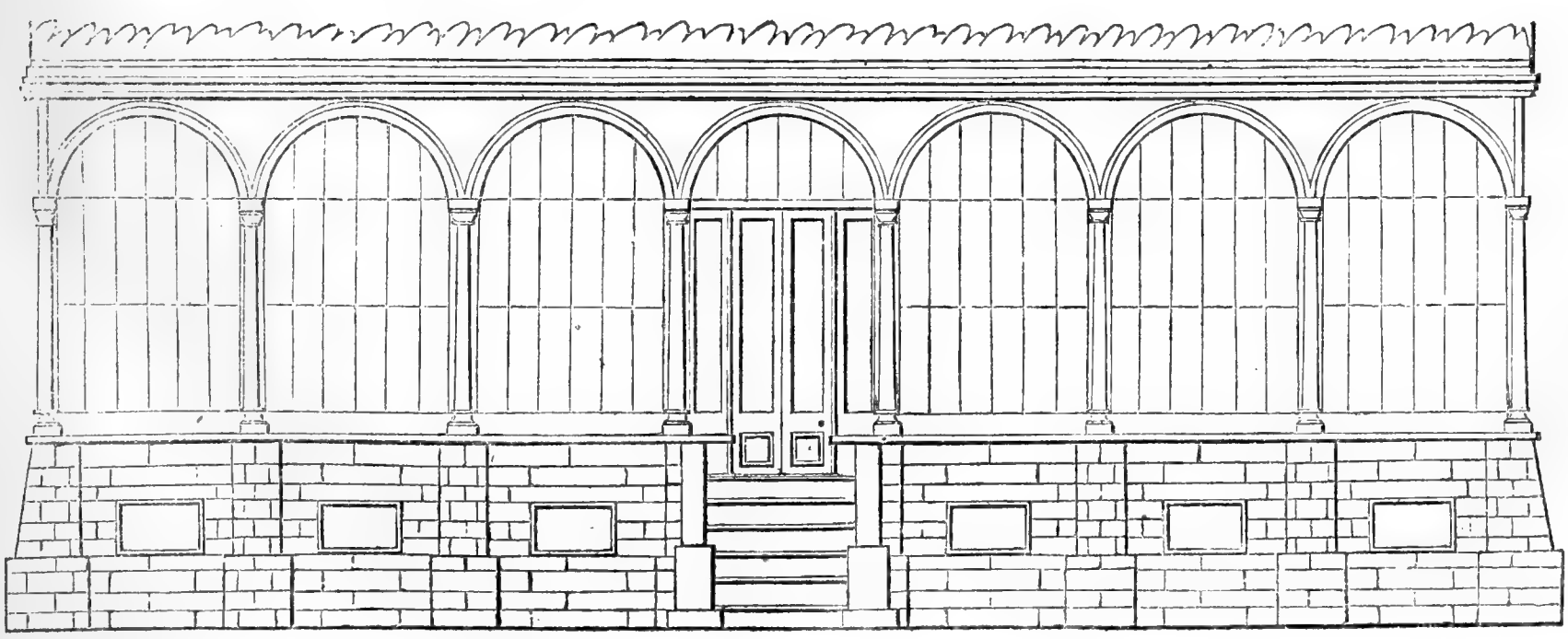
The drawing No. 1 is an illustration of the ground plan of the building; No. 2 a sectional view, showing the whole of the pipes connected with the heating apparatus; and No. 3 is an end elevation. The length of the house is sixty feet, breadth forty-five feet and a half, and the height seventeen feet from the ground level. The ventilation is amply provided for by openings in the basement wall E, and the top ventilation is by rows of small sashes, easily opened and shut at pleasure. The heating of the atmosphere of the house, it will be observed, is by means of four hot-water four-inch pipes, A, running entirely round it, whilst two similar pipes, B, heat the tanks. In addition to these four two-inch leaden pipes, D, circle round on the floor of the principal tank. The soil of the centre tank is heated by the zigzag four-inch pipe C; F, the pipe for conducting off the waste water from the centre and side tanks; G, a four-inch pipe for running off the water from the bottom of the tank, H, in which the Victoria is planted. The tank H is sixteen feet in diameter, and these tanks are laid with pavement and covered with lead. The large one is thirty-four feet in width, with



an ample walk round it three feet six inches wide, with a trellised floor, as are most of the principal houses at Chatsworth. The glass used in glazing is in sheets four feet long and ten inches wide. The floor of the house is raised some three feet six or seven inches from the ground level, thus giving it a light and elegant aspect, and at the same time affording facility for perfect ventilation from below. The entrances are opposite each other, and are reached by a flight of six stone steps. Round the base of the house some ornamental rockwork has been added, which contributes much towards improving the appearance of the building. Although the Victoria has been proved to be a perennial, it nevertheless is capable of being grown to greater perfection as an annual, and this, consequently, is the system pursued at Chatsworth. The seed, therefore, is preserved from the time of gathering to the period of sowing in phials or covered glasses filled with water, and we may remark the plants here have always produced an abundance of seed; but this has not uniformly been the case at numerous establishments distant both north and south, several of which this year, in conse-



quence, have been obliged for a supply of plants to depend upon the liberality that animates the management of a certain establishment amid the hills of Derbyshire.

Last year we observed considerably over 100 seeds in a single capsule, and even from 200 to 300 are not unusual. The seed is usually sown here early in January, in shallow pans within a small tank, in a mixture of light loam and sand, and germinates freely at a temperature of 85°. The young plants are then transplanted into pots, and eventually the plant selected for the large tank is placed in it after the leaves have attained a diameter of one foot, or a foot and a half, about the second or third week in April.

The soil used consists of burnt loam, river sand, and manure, in the proportion of six loads of loam to one of river sand and two of manure, the whole well incorporated together, forming an excellent light, porous soil, somewhat resembling the rich alluvial beds of its native rivers.

The next important consideration is the supply of water, and this in all cases should be rain or river water, procured as pure as possible, and a constant supply of which, properly

regulated, should be kept flowing into the tank. The one we have described at Chatsworth has four wheels, above each of which is a pipe for supplying cold water, by which means the heat of the water can be regulated or moderated down to any required temperature; and, besides this, the action of the wheels produces a motion on the surface of the water, which, without this or some similar precaution, would probably soon become putrid. Gold and silver fish, also, it has been proved, are of great importance to the perfect development of the leaves, they devouring the numerous aphides and insects that often infest their under surfaces. Hundreds of these fishes, therefore, are annually placed in the tank here soon after planting.

The introduction of the *Limnæa stagnalis*, or water snail, has also been recommended, as it devours the slimy and mucous matter that always accumulates more or less in the tanks of tropical aquariums, and from our own experience of their usefulness in a large reservoir, which contains some thousands, we are persuaded that their introduction in a sanitary point of view would be extremely beneficial.

The average temperature of the tank is from 83° to 85°. This, however, frequently rises during the day to 90° without any ill effects. The air of the house may be said to vary from 80° to 90° or 95°, and we have even seen it at 100°. This high temperature is amply counteracted, however, by one of the most essential requisites to its well-being, that is, a good supply of fresh air; and this is most liberally provided for at Chatsworth, the large number of ventilators in the basement wall, together with those in the roof, supplying it almost *ad libitum;* and here a fact worthy of notice should not be omitted. It will be observed upon reference to plan No. 2 that the four four-inch pipes, A A, for heating the building are placed immediately fronting the ventilators in the basement wall, so that all the air admitted into the house from below must necessarily pass through, or come in contact with, these heated pipes, and therefore that great desideratum in ventilation, a circulation of warm air, is easily effected. This very important and highly necessary precaution should never be lost sight of by the architect in constructing horticultural buildings, too many of which, and even very modern ones, we regret to observe, are built and ventilated without the least provision being made for warming the air admitted into them by the ventilators, and without a proper circulation of this in some way or other no plants will flourish. Live they may; but when partially deprived of pure air they only linger out their lives in a pallid, enervated, and undeveloped state, more of a disgrace to an establishment than a decoration. And let the opponents of a more free circulation to tropical structures bear in mind that even the most sultry forests, swamps, and savannahs of the tropics abundantly afford to plant and animal life that which many a modern cultivator of exotics almost denies; for instance, nearly all our richest and most delicate Orchids inhabit regions in which for nine months in the year Aquarius is in the ascendant, and almost unremitting rains prevail. Who, then, among the pale, attenuated Orchid growers of the nineteenth century can have the ignorance or presumption to assert that close confinement, in conjunction with next to no ventilation at all, is congenial to the growth of tropical plants? What possible analogy can there be existing between the unwholesome, unrenewed, and stagnant air of some of our almost air-tight Orchid and other exotic plant houses when compared with that of the native habitats of their denizens? localities where, for more than two-thirds of the year, unceasing rains produce a corresponding circulation of air, and evaporation from above, around, and below scarcely ever ceases; so that the difference between the atmosphere of a tropical country and the artificial one of a tropical house is about as widely separated as midnight from morning. And, furthermore, respecting a free circulation of air, let it be remarked by one of the thousands who have learned, when deprived of its influence, to feel its value (and there have been those who have learned it too late), that the effect, at least upon animal life, of the heated and confined atmosphere of some of our tropical houses is, in point of fact, although slower in operation, yet still no less surer in effect than that of the pestilential exhalations of the Campagna, or the still more putrid and noxious vapours that seize and paralyse the unwitting intruder within the precincts of the "poisonous valley of Java." But setting aside this unwholesome subject with respect to human health, we turn to what is generally considered to be of more paramount importance, namely, the health and vigour of plants in the atmosphere of one of those structures which some tropical growers seem to delight in assimilating as near as possible to that of the above "valley."

Standing only a few days since within a nearly new Victoria house to which we had rambled, one might there see fully and deplorably exemplified the effects of insufficient ventilation upon our regal *protégée;* and from the heat maintained within this structure we should imagine the want of high temperature could not have been the cause of the lamentable failure before us. That building contained a plant of the *Victoria regia* in the most abject and pitiable condition we have ever seen a plant of its age; and yet the capsule of seed from which that plant was obtained produced at the same time, in the same house, and under precisely similar circumstances, another plant, which a more genial and natural system of cultivation elsewhere has converted into one of the finest specimens of the Victoria to be met with at the present time in Great Britain. This fact, therefore, must be conclusive; and, as we have now treated upon the principal points connected with its cultivation at Chatsworth, it will not be altogether out of place to present our readers with an account of the mode of cultivation adopted on the Continent at one of the establishments where it has been grown very successfully. The instance we are about to quote is a translation from the German, kindly furnished us by Mr. W. Birschel, which will show that our continental neighbours were not backward in hailing its introduction into Europe.

"The *Victoria regia* house at the Royal Gardens, Herrenhausen, near Hanover, was fitted up for the reception of this regal plant in the spring of 1851. The tank is thirty feet in length, and nineteen feet broad; its depth, calculated from the surface of the water, is four feet in the centre, and one foot and a half along the outer edges. The *Victoria regia* cultivated here was raised from seed procured for this establishment from the Royal Gardens at Kew, and from those of the Duke of Northumberland at Sion House, in 1850. This was the first plant introduced into Germany, and flowered for the first time in the summer of 1851. The seeds germinated towards the end of November and in the commencement of December, and on the 10th of March they were finally transplanted into the tank. On the 22nd of June the first bloom expanded, and until the end of November more than fifty others followed. At the commencement the young leaves are turned or folded inwardly, and, being covered at the back with prickles, have the appearance of a prickly shell or hedgehog. Mostly on the third day after making its appearance above water the young leaf has fully expanded itself, and it has then entered the period of its quickest growth, averaging fifteen to twenty-seven inches in the twenty-four hours. The upper side is light green and smooth, whilst the under side is somewhat red and prickly, provided with three strong ribs, containing aërial channels radiating out from the point where the petiole is attached to the leaf, which are again united by cross ribs, which cause the great portableness of the leaf." Here follows what is now too well known to bear repetition—a botanical description of the leaf, and also an account of an experiment carried out before His Majesty the King of Prussia to ascertain what amount of pressure the leaf is capable of sustaining; but to proceed with the cultivation. "Two plants, planted at equal distances from the centre, occupy this tank. The extreme point of the leaf is generally sixteen or seventeen feet from the stock of the plant; that is to say, when the petioles and leaves are fully developed; therefore a fully-developed plant, with sufficient space to spread, would have a circumference of about 100 to 110 feet."

After this follows a description of the flower from the appearance of the flower-buds until the expiration of the two days that complete its reign; and this, although not strictly bearing on the cultural subject, is, nevertheless, so truthful an account that to suppress its appearance here would be but a poor compliment to the abilities of the translator; and, for our own part, often, and daily almost, as we have watched the expansion of this mag-

nificent flower, enjoying at once the beauty of its appearance and the delicious fragrance of its perfume, still we do not feel at liberty to deprive our readers of this portion of the extract with the idea that we could, from our own observation, lay before them anything better. "The flower-buds appear along with the young leaves; they generally open between four and five o'clock in the afternoon, unfolding first the four leaves of the calyx, which cover the pure white corolla, and this unfolds itself by degrees. The flower, which emits during the first evening of its opening a fine and agreeable odour, closes towards morning to re-open during the afternoon. Its appearance, however, is not now so lovely as at first. The pure white corolla has changed to a pinkish colour, and the calyx and petals, which are towards the centre of the flower of a fine carmine tint, are farther thrown back than on the preceding evening. The stamina stand corolla-like erect, and the flower has reached the culminating point of its development. Towards midnight, however, the stamina close again, and the petals soon follow their example. The next morning it is closed rather tightly, and gradually it inclines itself more and more towards the water, and after three days only the fruit remains visible, and this swelling rapidly yields its ripe seeds in six weeks more."

We could multiply accounts of its cultivation in other parts of the Continent in addition to the foregoing, but this would be needless, for the growth of the plant has now become so general throughout Europe that merely to enumerate the establishments in which it is grown would be too much for our space, and suffice it to say we are not aware of any establishment on the Continent, however favoured, in which it has been grown to greater perfection than in this country.

A novelty, however, respecting its cultivation in England is too interesting to be omitted before closing our remarks on its growth, and that is the cultivation of this plant in the open air at the exotic nursery of the Messrs. Weeks at Chelsea, where it was grown and flowered to considerable perfection during the summer of 1851 in an open tank protected by an awning; not, however, be it remarked, in such a strictly natural state as the words "open air" may imply, for the water of the tank, it appears, was maintained at a temperature of 84° or 85° by a circulation of hot water below it; and this, as an able writer has somewhere remarked, would be sufficient to regulate pretty effectually the state of the atmosphere for several feet above it, so that although great credit is due to the enterprising spirit of the Messrs. Weeks in carrying out this experiment so successfully, still we are far from being convinced that the plant is capable of being grown in the "open air" in England; and the complete failure, too, this year of the plants in the marble basins of the greenhouse division of the Crystal Palace tends even more strongly to confirm us in our opinion of the utter impossibility of attempting to acclimatise a tropical plant of this description, even within a greenhouse, in Great Britain or any other country above the latitude of 45° or 50° north.

The Royal Gardens at Kew, from which the plant originated, have yet to learn, it appears, how to erect a building at all suitable for its growth. The "new house" there at present, erected, we believe, at a cost of £2,000 or £3,000, according to the general opinion entertained of it, is anything but creditable to the conductors of so public an establishment, and our own private opinion respecting this matter, we should observe, is precisely parallel to that of the public. The exterior, in our opinion, has nothing to recommend it, and the tank in the interior assuredly has that about it which strongly reminds us of one of those green and slimy, undisturbed pools occasionally to be stumbled upon by the excursionist in some of the shady "nooks and corners of old England." Kew, however, has produced, some years back, a few fine plants of the Victoria; but among the numerous cultivators of the plant in England those nearest London who hold the "palm" are, perhaps, the managers of the gardens at Sion House, and those of the Society in the Regent's Park, at both which places very excellent plants have been grown annually. "The present one at Chatsworth," writes a gentleman from that place, "is bidding fair to outgrow all former-grown Victorias in size and beauty." The average diameter of several leaves grown there in some previous seasons has been between six and seven feet each, and these leaves are capable of supporting with ease persons of ten and eleven stone. The diameter of the largest flower yet expanded there this year was, we understand, something over seventeen inches. By reference to the ground plan, No. 1, it will be seen that the large tank has a breadth of thirty-four feet. This, however, is far from being sufficient space for the free accommodation of the immense leaves of this queen of the waters, for we have ourselves measured leaves extending with the footstalk considerably beyond the doorways (sixty feet apart) on each side of the house. This, therefore, would give the plant, as grown at Chatsworth, the enormous circumference of over 180 feet. Our children of the second generation may, perhaps, see it enjoying itself in an uncramped state; or who knows what cultivation may do for it? Some future writer or draughtsman in years to come may possibly render himself illustrious by laying before the readers of The Cottage Gardener the ground plan of a tank exhibiting an area equalling that of the arena of the Roman Colliseum, and intimating too, probably, as we have done, that sufficient space and free accommodation would still be considered desirable. What we have said, however, respecting its circumference is a positive fact, and therefore a proof that we have yet to see the aquarium erected that will give its leaves their full stretch of easy and unrestrained expansion.

Cultivation, however, it must be remembered, on the other hand, sometimes contracts, as well as expands, the subject; and this reminds us of a gentleman with whom we are acquainted, who has flowered the Victoria in a box a foot and a half square! Under whatever circumstances, however, it may be grown, we do not for a moment doubt but that it will long continue to retain its high and admired position in the tropical aquariums of this and every other country; and, apart from all the interest attached to this remarkable vegetable production from its great size and other attributes, we have, in conclusion, to consider what may perhaps surprise many; that is, the benefits conferred on this country by its discovery and introduction.

From what slight and apparently trivial causes ofttimes spring the greatest of human achievements; and art and science in this country owe a deep and lasting debt to the introduction of the *Victoria regia*. Reposing on the still and placid waters of the bays of the most powerful rivers of the New World, it had for ages flowered and floated in all its beauty, until it met the gaze of the ardent and delighted botanist, who little thought that in giving the world this magnificent aquatic he gave it as well the germ of that Palace which now crowns the hill of Sydenham. The network of deep and enormous ribs which project below the leaves, and materially assist in supporting them, suggested to Sir Joseph Paxton, it is said, the design of the upper portion of the Victoria house at Chatsworth. And from this house, as is well known, originated the Exhibition of 1851; and from the Palace of the people sprang that unrivalled triumph of architectural skill, the present Crystal Palace, with all its attendant and unnumbered advantages towards the peaceful diffusion of art and science, social progress, and national prosperity.

But, with all that we have said and attributed to this plant, let it be particularly remembered that the leaf of the Victoria does not present on its under surface any palpable plan of a palace, or of anything, to an ordinary eye, at all resembling it; or let the observer even discern, if he can, the analogy existing between it and the house erected for its growth at Chatsworth; yet, nevertheless, from it originally was drawn the first crude and unexpanded idea that eventually gave to the world the existing Palace, and to the author of that happy and auspicious idea a name and fame "which history hereafter will be glad to chronicle."—I. H. C., *Hamilton Place, Sydenham.*

FRUIT KEEPING BADLY.

It seems to be a general complaint that hardy fruits, that is, Apples and Pears, keep badly this autumn; and I am sorry to say, so far as my own experience goes, it certainly is so. A preventive for such a state

of things is more difficult to find out than it is to assign a cause for the premature decay. The only remedy that I can suggest is to remove the fruit to as cool a place as possible, for warmth, however beneficial it may be in other respects, is certainly at variance with the keeping qualities of hardy home-grown fruits.

The cause of Apples and Pears keeping so badly this season may be attributed to various points, one of which is the early ripening of the fruit, which entailed the necessity of its being gathered sooner than usual, and the unusual warmth of the autumn months September and October, accompanied with moisture. Added to these causes, I think the fineness of the summer enabled the fruits to store up a larger amount of saccharine matter than they often do; and this, being acted on by the heat of the season, caused that decay complained of. At the same time it must be acknowledged these fruits have been of better quality than for some years, and the trees look, on the whole, more healthy than they were ever expected to do by those who witnessed their appearance in June, 1856; I mean the generality of orchards in this neighbourhood.

Although Apples keep badly now I am in hopes that if we had cold weather and extra room to lay the fruit in, which, of course, increases as the season advances, they will keep better; in fact, some old hands predict their preserving well. Be that as it may, it is always a source of regret to see them decay so soon, and no doubt but that is the cause of their being so cheap in the markets, so many people hurrying them in. The crop in this neighbourhood has been much below an average one, though, as I have before said, the size and quality of the fruit have been good, and no doubt the cider of 1857 will be better than usual. Whether any portion of it will be sufficiently good to be deemed worthy of a voyage to the south of Europe and back after receiving another name, as has been broadly asserted by some, is a question not necessary here; but, as a good fruit season invariably produces a good wine in the countries famous for that beverage, the more homely cider of 1857 will be not the less relished by the smallness of old stock in hand; and the premature decay of Apples expected to keep some time has certainly helped to fill up the cider casks without impairing its quality.

J. Robson.

NOTES ON NEW OR RARE PLANTS.

Mucuna prurita. Nat. ord., *Leguminosæ*.—A native of the East Indies; and, although it has long been in cultivation, it flowered for the first time last year in this country. Stem twining, woody, much branched. Branches round; younger parts rather hairy. Leaves trifoliate, on very long petioles, which are swollen at the base, round, and hairy; middle leaflet elliptical, obtuse; lateral ones one-sided, on short, stout petiolules; upper side glabrous; under one greyish, with the veins boldly developed. Stipules narrow and subulate. Racemes produced from the axils of the leaves, on long pendulous peduncles. Pedicels in threes, and based by a thick tubercle. Calyx two-lipped; upper lip entire, obtuse; lower one divided into three acute lobes. Corolla large, dark purple, with the parts adhering together.

This remarkable stove climber is very worthy of cultivation. It is very scarce in this country; but its striking appearance when in flower ought to bring it into more extended use as a climber. When loaded with flowers it bears such a resemblance to a *Black Hamburgh* Vine in fruit that is ripe as to be mistaken for it at some distance; but, of course, the deception vanishes with a closer inspection of the object. Judging from the comparatively healthy state of the plant under the circumstances I have seen it, its culture must be simple. It will do well planted out in a rich, strong compost of loam and peat, with a portion of well-decomposed cowdung. It roots with difficulty from cuttings, and seeds appear to be rarely produced. Perhaps it may increase more freely by layers.

Leptodactylon Californicum. Nat. ord., *Polemoniaceæ*.—Native, as its name implies, of California. Mr. Douglas was the first to introduce it to notice. Stem dwarf, and numerously branched. Branches covered densely with small, beautiful foliage. Leaves cut nearly to the base into seven awl-shaped, hairy segments, mucronate. Calyx hairy, tubular, cylindrical, divided rather deeply into five subulate teeth. Corolla hypocrateriform; tube very slender; limb large and spreading, divided into five wedge-shaped, sometimes irregularly toothed lobes.

This is quite a gem of its kind, producing a rich profusion of brightly-tinted flowers in spring and early summer. Indeed, the number of blooms is so great as to quite eclipse the diminutive foliage, and hide it from view. Its habit is dwarf and very handsome if well grown, and its culture is moderately simple. The compost it seems to thrive in best is a good sandy peat, with a little light fibrous loam added to it. It is very apt to go off from too much moisture at the roots, therefore a plentiful and well-secured drainage is particularly necessary, and plenty of care must be given to the watering. When kept too close it is very liable to damp at the points of the young shoots, which, if not checked on its first appearance by a freer admission of air, will ultimately and quickly destroy the plant. The Heath house is the best place for it, and the general treatment of Heaths is what it requires. It is readily propagated by cuttings in slight heat under a bellglass in sandy peat. The glass should be taken off every night, and put on in the morning till they are rooted, when it may be entirely removed; but the plants should not be potted off till they have quite filled the pot with roots.

Dipladenia Harrisii. Nat. ord., *Apocynaceæ*.—Native of Trinidad. Stem woody, twining, branching, round, and smooth. Leaves opposite, between oblong and ovate, somewhat acuminate, slightly membranaceous; petioles short and stout. Racemes axillary and terminal; pedicels short, and furnished with bracts. Calyx tube short, green, divided into five obtusely ovate segments. Corolla large; tube funnel-shaped; base rather inflated; lobes of the limb broad, round, spreading, beautiful yellow; tube finely marked with red both inside and outside.

A splendid, but shy-flowering stove twiner. It is a handsome plant of its kind, and thrives best trained to the rafters of a stove or to a trellis. The compost it likes is good fibrous peat and loam, in the proportion of two parts of the latter to one of the former, and a free drainage forms a necessary and important part of the preparation. Although the individual flowers are so very fine I am afraid, from the spareness of its blooms and their short duration, that the plant can never become a favourite with cultivators.—S. G. W.

THE STEWARTON HIVE.

Allow me a small space to notice the remarks on the Stewarton hive by "B. B.," which appeared in The Cottage Gardener of the 6th of October. Briefly, then, I may state that my object, when I advertised the Stewarton boxes, was to make public our system of management in connection with this hive, which I considered highly meritorious, and which only required to be brought under the notice of the intelligent bee-keeper to receive his approbation and support. Unfortunately the directions for management were drawn up in ignorance of the small size of southern hives. This was a grave affair, and the result has been that the Stewarton hive has not received a fair trial. I should have stated in

the directions that a swarm of at least five pounds was required for the two boxes. When throughout the summer I became gradually more and more enlightened as to the puny size of skeps in general, compared with those of this locality, I felt much annoyed to think that I had been the unintentional cause of disappointment to all who had purchased a Stewarton hive and followed my directions in working it. For this blunder I beg humbly to apologise to "B. B." and others.

I have confidence, however, in asserting that if "B. B." will give our boxes a trial with abundance of strength the results will astonish him. I admit that at first it may not be agreeable to put more than one swarm into one hive, but the harvest will convince "B. B." that there is less advantage in our bee pasture than he dreams of. About Stewarton in ordinary years we count on about three weeks only of a real honey season; and, with the exception of this year, we have not for a long time reaped any benefit from the heath.

"B. B." surely cannot be in earnest when he compares Neighbour's and the Stewarton hive. The former, I presume, is adapted to the tastes of the bee-keeper who wishes to work his stock on fancy principles without regard to quantity; the latter is essentially for practical purposes, and intended to produce the greatest quantity in the least time. To one class of bee-keepers the Stewarton hive would be dear at any price, and so would Mr. Neighbour's to the other.

The following extract from a letter received the other day from a party resident near Southampton who *did not* follow my directions is to the point:—

"Your bee boxes answered well this season. I hived a swarm into them on the 16th of May, and on the 28th I joined another swarm to them. On the 6th of June I made a honey box and put it on the top. By the 16th of July it was filled and sealed with beautiful white honey-comb—not a single grub in the box. I have since taken off the honey box: it weighed 26 lbs. The hive from which this was taken weighed 62 lbs.," &c.—Robt. Eaglesham, *Stewarton*.

FEEDING BEES AND THEIR NEW FOOD.

Bees should always be considered as natives of a warm climate, by which means we can account for their ways being opposed to their own security. Instead of their keeping together in a strong colony they break off into small ones, and are thus weakened and rendered unfit to collect sufficient store for winter. The exact quantity of food requisite to keep a colony in good condition during the winter is not easily fixed: 10 lbs. and 15 lbs. have been named, but we think that the latter quantity is the safest, and if it reach 20 lbs. so much the better; still colonies short of the first quantity named should be fed, and the hives made snug for winter. The less room bees have during that time the better for their health, for all the combs that they do not cover take more or less harm, and the pollen is rendered unfit for use in the spring; consequently all communication should be closed from any extra room given to the hives in summer, and their doorways lessened or closed, except a few small holes for air. In general we prefer the latter, for, as we have already observed, the instinct in bees is still obedient to the laws which govern the climate whence they originated, and consequently many of them are deceived by the warmth of a winter's sun, sally out, and are either picked up by tomtits or perish in the snow.

Until we know more respecting "tilseed cakes" as new food for bees we state that honey is their most natural food, but there are also other sweet mixtures used for feeding them with success; and, while some correspondents are making inquiries respecting this new food for bees, we shall have a "tilt" at the paragraph in the papers which gave rise to it. If such is not a French hoax it seems to be exaggerated; at least, the story does not agree with the habits of bees. It is said that they all left the hives in the mornings and returned laden at nights. Bees fly several miles for food, therefore the attractive treasure must have been far off if they could make only one journey in a day; and, however much they brought home, it could not equal the store collected by the same number of bees repeatedly in rich pasturage during the day. Besides, whoever knew of all the bees leaving a hive at once in search of food? If they did their larvæ must perish. Indeed, the thing is absurd—a whole barrel of honey in front of a hive would not entice them all out at once. Perhaps this great novelty respecting the "far farmers'" new food for bees may turn out to be only similar to bees with us frequenting brew-houses for the sake of sweet wort, in which great numbers of them are often drowned, to the loss of the bee-keeper.—J. Wighton.

JERUSALEM ARTICHOKE FLOWERING.—CONIFERS BY THE SEASIDE.

Have any of your readers lately noticed the unusual circumstance of the abundant flowering of the Jerusalem Artichoke (*Helianthus tuberosus*)? I am unable to mention any peculiar circumstances of temperature to account for this deviation from the ordinary habit of the plant in question. I am anxious, therefore, to learn whether the occurrence has been noted elsewhere.

Many of your correspondents have inquired what varieties of the Pinus and other Coniferous tribes are most likely to succeed in localities near the sea. Where the soil is of fair average quality, *Araucaria imbricata*, *Pinus insignis*, *P. laricio*, *P. Austriaca*, *P. pinaster*, *Cryptomeria Japonica*, *Cupressus macrocarpa*, and *Abies Cephalonica*, have here done well. *Cedrus deodara* has thriven just so long as shelter has been provided, but no sooner has it outgrown its nurses or other protection than the leading shoot becomes blighted, and the habit of a shrub supersedes that of a tree. Where shelter, however, has been continued, mere proximity to the sea has not been prejudicial. I have only mentioned those that have done best. There would be a large class of those that have done fairly.—W., *Penzance*.

[The flowering of the Jerusalem Artichoke has been very general this year. It is not so uncommon as to deserve a drawing as a curiosity, though this has been done in the *Illustrated London News*. There are many more unusual events, consequences of the late magnificent summer, occurring around us. Thus we have *Berberis Darwinii* in full blossom now for the second time this year; and Mr. Robson, it will be seen, records the ripening of a second crop of Figs.—Ed. C. G.]

SALVIA NEMOROSA.

Lately we observed an advertisement of the *Salvia nemorosa*, a favourite flower of bees, by the "Curator, Botanic Gardens, Bury St. Edmund's." We have already spoken of this plant as such. It is very hardy and rather ornamental, blooms the greater part of the season, and sometimes till late in the autumn. On the 18th of October we observed bees on its blue or purplish blossoms as if it were Midsummer. They were also very eager among the small kinds of Michaelmas Daisies. We mention the latter in order to bring those late flowers into more notice, they being amongst the last to attract bees before winter. There are many other *bee flowers* which advertisers may bring into notice; for instance, we had some Bokhara Clover last season about seven or eight feet high, whose blossoms lasted long and were covered with bees.—J. Wighton.

MOVING BEES TO THE MOORS.

The vehicle on which bees are placed for the purpose of transporting them hence to the moors is for the most part a common handbarrow, large enough to contain four hives. At daybreak on the 12th of August, that day so full of death and desolation to myriads of the grouse and moorfowl families, my men and I set out upon our journey, and what follows is a kind of description of our day's doings and their results. An easy walk of an hour and a half's duration brought us to the upper end of the Broomielaw, where lie in crowds the world-famed steam gigs which ply upon the Clyde. On board that swift and elegant steamer, the name-

sake of one of our most distant planetary cousins, Jupiter, we went, and placed with care upon its quarter-deck our precious load. All things upon examination proving satisfactory we took a glimpse at what was going on around us. Nothing gratified me so much as the arrival on board the said *Jupiter* of half a dozen men, bearing between them three barrow-loads of bees. From the neighbourhood of Bothwell they had come, and for Arran's Isle were bound, a distance of full 100 miles. The description they gave of the abundance of heather there and the success of former years almost tempted me to cast in my lot with theirs, but time, &c., forbade. Off go the ropes, round go the wheels, at the appointed time to a minute; through the long lines of shipping on either side we move along. As we emerge into the clear water-way our speed increases, and we bee men cluster together round our barrows, and open a gossip about bees,—experiments and their results described—opinions and the reasons for them given—statements, erroneous, dubious, and correct, of both ancient and modern bee masters discussed—the whole flavoured and spiced with anecdote and joke, served pleasantly to occupy our time, and keep far from us weariness and the like.

In the very midst and thickest of our talk a savoury smell of salmon steaks glides in upon our sense of scent, rousing our dormant appetite, acting thereon as whet the first; a peep through the cabin window down upon the breakfast board is whet the second; a brace of cold fowls, with tongue to match, carried past us beneath our eyes is whet the third, and irresistible. So down to the lower regions straight we dived, and then, O shade of Erisichthon! hadst thou been there how thou wouldst have blessed the goddess who gave thee up to hunger! for here before thy longing eyes, in spotless damask, there is a feast spread out of fish, and flesh, and fowl, hot rolls or muffins, buttered toast and dry, rich cream, fresh butter, the ancient Mocha, and the youthful hyson too—a feast the like of which not all the great of Thessaly in thy old time ever saw or dreamt of, and this on board a small Clyde steamer, and the charge just eighteen pence.

Shortly after nine o'clock we arrived at Greenock, and having effected a safe landing, and been instructed which road to walk to reach the heather soonest, we trudged along, nor rested till we had left people and houses far behind us.

We now exchange the level ground and good roads for the mountain sides and rugged footpaths, where every particle of surface soil is washed away, leaving the face of the world old rocks exposed all riven and rutted by the hand of time and the tears of winter. The heather reached, our first application for permission to plant our bees was refused, for reasons not very complimentary to the vivid perception some of the Greenockians have of the exact difference between *meum* and *tuum*. Our second fared no better, but for a reason more absurd, and perhaps less true. They would have nothing to do with them, as they robbed the heather of its juice, making the cows' milk not worth a button for making butter of. This is the wisdom of the nineteenth century found up near the clouds behind Greenock. We lost no time in attempting to disabuse their minds of this foolish notion, but pushed on through the heather; and such an expanse of it, before, behind, and around us for miles! Whichever way we look nothing is seen but heather bursting into bloom, covering with a purple carpet the whole visible land, filling the air with its honeyed perfume, tantalising our caged-up captives with its mellifluous fragrance, so that they fairly roar for liberty. Would we could give it them; but there is no sign or token by which we might infer the proximity of a human habitation. On a small green spot of diminutive trefoil—an oasis in this wilderness of heath—closely cropped and shorn by the black-faced, four-footed, woolly denizens of the moor, we set our burden down, and held a consultation touching the propriety of advancing or retreating; when hark! the welkin rings with the discordant, but nevertheless welcome crow of a cock of Cochin, proclaiming unmistakeably the near neighbourhood of the dwelling-place of bipeds, both men and fowls. The summit of an eminence being reached, our eyes are gladdened with the near view of a shining, whitewashed, slate-roofed cottage, the very type and symbol of cleanliness and peace.

Permission being readily given by the "gentleman," the counterpart of many now in Havelock's brave band, we speedily fix our hives, carefully thatch them with straw brought with us, undo the prison doors, and out the captives fly. In four minutes the first bee is seen to enter, bearing pollen; then another and another, faster and faster, until the fifteenth minute after being opened every entrance of every hive is crowded with burdened bees. Between August 12th, when I left them, and October 5th, when I brought them home, I visited them twice, and deprived three of them on my second visit. The result of their sojourn in the moors, comprising, of course, these deprivations, is given below. The hives consisted of two collateral and two storied, reduced prior to removal by depriving them of supers, side boxes, and side bars to as nearly the same weight as possible, with the double object of testing the two systems where food was plentiful, and of avoiding the paradox of carrying honey to the heather.

The collateral hives are those described by me in The Cottage Gardener, Vol. XVII., page 382. The tare of boxes, boards, &c., being deducted, the net weights are as follow:—

		Aug. 12th.	Oct. 5th.		
No. 1.	Collateral,	20lbs.	48lbs.	Gain,	28lbs.
No. 2.	„	23	53	„	30
No. 3.	Storied	21	49	„	28
No. 4.	„	24	50	„	26

The gain was thus distributed:—

No. 1.	Top side box	12lbs.
	Bottom ditto	8
	Stock	8
		28
No. 2.	Top side box	13lbs.
	Bottom ditto	10
	Stock	7
		30
No. 3.	Super	15lbs.
	Stock	13
		28
No. 4.	Super	18lbs.
	Stock	8
		26

In showing these results I do not claim for my bees any credit for having wrought wonders, for several bee-keepers with whom I am acquainted have reaped a richer harvest; but I do say that the result is very satisfactory, and, when brought into juxtaposition with that sweeping assertion of Mr. Tegetmeier's regarding "any system of collateral working" (page 413, Vol. XVIII.), I am led irresistibly to the conclusion that he is greatly mistaken, and that the term "unsatisfactory," as applied to collateral hives, ought to be for ever blotted out of our vocabulary.—D. G. M'Lellan.

QUERIES AND ANSWERS.

JASMINE WITH NAKED STEMS.

"I have a Jasmine against my house, the common sweet white, *J. officinale*, which, having been many years, planted, has now attained a considerable height, but the stems have become naked for six or eight feet from the ground. Will it answer to cut down these old rough stems wholly or in part, in order to make them throw out young shoots, and consequently flowers?"—Verax.

[Not "in part." Cut them all down to very near the ground, and in two years the plant will be just as high as it is now. If you cut one half of these strong shoots the other half of them may be so strong as to draw all the sap and growth to themselves, or else rob the young growth so much as to make it not worth having. Passion-flowers, Periplocas, and Honeysuckles are in the same category.]

TO CORRESPONDENTS.

Flower-garden Plan (*M. G.*).—The plan of this flower garden, or one just like it, has been three times through our hands. It is the best plan we have seen for making the best of Verbenas. A middle circle seven feet across, then a circle of grass or gravel three feet to walk on; outside this eight beds in a circle, each ending in the side of the walk; and an outer circle of beds, in which each bed lies opposite the centre of two beds of the first circle. Mixed Verbenas, or variegated Geraniums, or a collection of mixed plants for the centre bed. Any two opposite beds of the first circle of beds should be white flowers, which would leave three beds on each side of the whites. The middle bed of each three sets may be either scarlet or yellow, and the other two either yellow or scarlet, and all should be of dwarfer habit than the plants in the outer circles of beds. Scarlet, yellow, pink, purple, and blue for the outside beds, but every alternate bed in this circle may be mixed like the centre one—that would be the most telling way for the colours. But you might plant the centre beds with *Salvia patens* or *Ageratum*, so as not to see the beds behind till you came round; then, by not seeing *over* the figure all at one view, any of the colours would do in any of the beds, so that pink or light purple does not come next a scarlet. We must not name particular plants for reasons often given.

Red Spider (*W. C.*).—Keeping the air moister in the frames, dusting *under* the leaves with flowers of sulphur, and sprinkling sulphur over the surface of the soil, are the best remedy for the red spider on your Violets. They have been kept too close and too dry.

Fruit Culture (*A Young Gardener*).—We promise you that in our "Fruit Gardening for the Many," price fourpence, you will find all that you ask for. Ample directions for the cultivation of fruits, with lists of the best, and their merits.

Outdoor Fernery (*Quercus*).—Make it next February, and plant the Ferns at that time. Sow *acorns* when they drop from the tree. That is the best time. If you keep them until spring they must be preserved in sand and sown in March.

Orchids (*S. J.*).—We cannot help you as to the envelope. Send better specimens in a tin box packed in damp moss. Your tin box of the 24th arrived safely: the plant is *Pitcairnia integrifolia*. Hot water, at a temperature between 148° and 154°, will kill all the scale and not injure the plants. Apply it with a sponge gently, but quickly; then lay the pots down on their sides, and syringe them with clean water of the same temperature. Repeat the application often, or until the pest is removed.

Grapes (*Mrs. Standen*).—Apparently *Black Hamburgh*, well ripened, but not of the usual size, nor well coloured. The Vine is too young.

Removing Cryptomeria Japonica (*S. Y.*).—This, twelve feet high, is a mere sapling, and may be removed without any danger. In its native country it reaches to a height of 100 feet.

Names of Plants (*F. G. Dutton*).—Your Fern is *Platyloma cordata*, or Heart-leaved Platyloma. A very elegant species, native of Mexico. It requires the protection of a greenhouse. It is not particularly rare. (*Clodhopper*).—Your most beautifully-leaved plant belongs to the natural order Convolvulaceæ, and to the genus *Argyreia*. It is probably *A. speciosa*, and figured in the *Botanical Magazine*, under the name of *Ipomœa speciosa*. They require to ramble extensively before there is any chance of flowering them. The flower, if it is *A. speciosa*, is purple withinside and whitish outside.

Moving Old Rose Trees.—(*A. T.*).—If the Roses are near the spot where they are to be now transplanted, and have green, healthy tops, as most perpetuals have just now, it is best not to cut them till the end of February, or later, but they should be very securely tied to stakes. The reason is this—the healthy leaves will so act upon the roots as to cause them to throw out young rootlets immediately, as Mr. Appleby contemplated in his instructions last week. But, on the other hand, if the leaves get the smallest damage between the lifting and the planting, or if they flag in the least, it would be folly not to prune the Roses at once, as bare shoots or browned foliage can add nothing to the secretions of a Rose or any other plant, and, meantime, may waste a large portion of the juices from which the secretions of next year will partly be derived.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder Cirencester.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 8th and 9th. Crewe. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th, and 13th, 1858. Crystal Palace. *Sec.* Mr. W. Houghton. Entries close December 12th.

January 13th and 14th. Dublin. *Secs.*, T. M. Hutton and R. P. Williams, Esqs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 18th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

PRESTON POULTRY SHOW.

Will you allow me to call the attention of the Committee of the above Show to what appears to me to be an extraordinary omission in their prize sheet, which in every other respect is a handsome and liberal one? I allude to the Bantam classes, for which no plate is offered, and for what reason I am at a loss to understand, unless it be that the diminutive specimens are intended to be overlooked or slighted on account of their size. If that is really intended let them also pay half price for admission; but if not, and a full admission fare be demanded, why not admit them to full privileges? Are they really to be slighted because their crow is not loud enough to make itself heard in the committee room? The only plea that appears at all reasonable under such marked ill-treatment is that the chances in competition are less.

If this be the reason, the Committee have placed them in their present ignoble position. I beg to refer them to last season's entries, where I find 11 entries for Gold-laced, 8 for Silver-laced, and 9 for any other variety of Bantams. These are not very heavy entries I will grant; but if they will please now to compare these with a few other classes they will see at once that Bantam exhibitors have cause of complaint. Class 12, Pencilled Brahma Pootra, last season only four entries. Class 14, Light Brahma Pootra, only two entries. Yet these two classes have this season two pieces of plate and four money prizes to compete for; or, in plain terms, there is a prize for every entry of last year. I do not wish to impugn the motives of this liberal Committee, but it does strike me as rather singular that last season three silver cups and one second prize fell in the Brahma classes to one of the Secretaries of the Society. To this I have no objection, supposing them to have been fairly awarded; but the competition was so small that the Society should have hesitated before it increased the premiums in these two classes, whilst it was decreasing in other classes where there was more competition. The White Dorkings last year only numbered three entries, yet the list for this season offers them three prizes. There are also some other classes in which the entries were fewer than the Bantams, and yet they have had their prizes increased.

Will some plucky little (Preston) Bantam plead our cause in the committee room? And ye noble Spanish knights, come gallantly to support your down-trodden, but not crest-fallen,

Little Brother Dandy.

Nottingham Central Association for the Exhibition of Poultry, Pigeons, Canaries, and Rabbits.—This Association will have its next Exhibition on the 20th, 21st, and 22nd of January, and with every prospect of success. The prizes, and the extra prizes of seven cups or pieces of plate, and extra prizes of money, varying from £10 to £4, are very liberal. We recommend the prize-lists to the attention of exhibitors. That for Canaries is unique. We have one question to ask, however. Upon what grounds have the Committee totally separated the Brahma Pootra class from the Cochin-China classes? Hamburghs and Malays are placed between them. Now, there is no doubt that Brahma Pootras and Cochin-Chinas are merely sub-varieties of one and the same breed.

HINTS ABOUT POULTRY SHOWS.

"*In medio tutissimus ibis.*"
(Thou shalt go most safely in a middle course.)

As an old correspondent of The Cottage Gardener I think at this season of the year a little gossip concerning future exhibitions of poultry would not be out of place. The statements in a recent number headed "Entry Charges and Sale Prices" I fully endorse, and would descant on the former comments as being especially opportune at this date, seeing that various programmes of future exhibitions are promulgated. In the first place, have the extensive prizes for poultry been productive of corresponding entries and gain? Most certainly not; and most undoubtedly they

have caused confusion, disappointment, and, what is worst of all, a want of faith and truthfulness towards the public. I speak advisedly, and in perfect unison with a great number of parties who have suffered from the old proverb, "Large words out of a small stomach;" or, in plain language, a staff of gentlemen, following the claptrap of the times, have produced programmes promising large prizes to be competed for, and then, after receiving the birds, have proportioned them just as it suited their funds. Thus, first and second prizes for Cochins, no third as proposed; and all the Hamburghs perhaps a second prize only, and so on with many others after this fashion. This is bad, very bad—a transparent sham, and the precursor of innumerable failures next season. As an individual of some experience I am convinced that the Crystal Palace prizes are very satisfactory to all exhibitors, but the entry fee should never exceed 5s.; it squares with most men's ideas, and makes up a sum somewhat like this:—

	s.	d.
Entry	5	0
Carriage to	2	3
Ditto back	2	3
	9	6

And if no prize comes, the sum being small, many a fancier will be perfectly content, on knowing the direction of the prizes, to add another pen or a new one for the next forthcoming show. But what is the case now? Why, anything but the *nimble ninepence*. The public are cajoled by cups, and £10 or £20 prizes, and high entries. Any *half-witted* man must see that the rich alone can *enter here*. Money competes against industry—merely money, naught else. It does not require a very rich man, but a speculating one. For instance, a man lays out £30, and buys one pen of first-class birds: in three months his cups, and prizes, and ultimate sale of the same bring him in a pretty sum *and a name*, and here ends all his knowledge; and yet these shows set out as being exclusively for the improvement of *domestic poultry*. Stuff! Why, you exclude the major portion of breeders, the artisan and cottager, and deceive the speculator and opulent. Things cannot last after this manner. I very much question whether you enhance the interests of the majority by £10 or £20 prizes, but contrariwise. The Crystal Palace is a fair criterion, and is not based on meeting the cupidity of the exclusives, but the requirements of the many.

It would be my great delight to see these Poultry Shows based on a more sensible foundation, permitting all classes to receive for their selection a fair and suitable prize, not as for a *horse*, a *bull*, or a *sheep*, but for a pen of *fowls*. I am ready to show some twenty times this next season, but nothing shall induce me to send my birds again to any exhibition unless the forwarders set out with a much more *truthful* and healthy bill of fare.—Opifex.

P.S.—The class "thorough-bred" (not usually named), is the one for a cup and numerous entries if properly arranged!!!

PIGEONS.

TOYS.

Variety 5.—THE ARCHANGEL OR BULLFINCH PIGEON (*Columba rubicilla*).

German, Die Gimpel oder Dompfaffen Taube.

I am not aware that this variety is known in France; but in Germany it is somewhat common, and is there known in the different parts by the local name of the Bullfinch, whatever that may be, the plumage having some resemblance to that bird. The English name of Archangel I am at a loss to account for, unless that as their German name *Dompfaffen*, which is applied to the bullfinch in some districts, also means a cathedral priest, and thus the importer by a slight stretch of imagination clapped wings to the archprebend, and converted him into an archangel. So much for a name! The Archangel, as it is now generally called in England, is the size and make of a Dovehouse Pigeon, and as light and quick in its flight, though it is much tamer and more tender; the beak pale brown; the eyes gravel; the head rather long and narrow, with a point of feathers behind, or "snake-headed," as the old fanciers would say. As to plumage they are very striking Pigeons. The head, neck, breast, and under parts are of a fine coppery red, very glossy, and reflecting an orange tint. The wings and back are shining black, showing purple and green shades; the tail dark slate-coloured, with a black bar at the extremity. There is also a sub-variety not much esteemed, in which the back and wings are of a brownish blue, with kite bars. The first feathers of the young birds are all tipped with kite brown.

Variety 6.—THE WHITE ARCHANGEL OR COLOURED-BREASTED PIGEON.

German, Die Farbenbrüstige Taube.

This variety so exactly resembles the foregoing in everything but plumage, that it may be regarded as a variety of that, and consequently it is unnecessary for me to recapitulate that description, as colour is their only difference. I will confine this to their marking. Head, neck, and breast are coloured either black, blue, red, or yellow, the rest of the plumage pure white; but in the young the nest feathers are edged with colour, and they only become clear white after the completion of the first moult.

Variety 7.—THE STOMACHER PIGEON (*Columba pectorale*).

German, Die Latz Taube.

The Stomacher is another variety of the German Toys, and derives its name from the front of the head, neck, and chest being coloured as though it wore a bib or breast-cloth either black, blue, red, or yellow, the rest of the plumage being clear white. They are very pretty Pigeons, rather stouter made than the Dovehouse Pigeon; have large shell-turned crowns, reaching nearly half down the back of the neck; the feet are stockinged, and they field well.—B. P. Brent.

OUR LETTER BOX.

Weight of Young Aylesbury Ducks.—"Please inform me what should be the weight of Aylesbury ducks four months old, and the drakes three months old, fed in an ordinary way; what age they are considered full grown, and their weight then."—Constant Subscriber.

[It is a very difficult question to answer, as everything depends on the manner in which they are fed. The Aylesbury folks have the gift of making their ducks large and heavy. At four months they would have them six pounds each, and in some cases more. As a rule, however, you are doing well if you make one pound per month without extra feeding. Your weight is then in framework, and that can always be clothed with fat. They have done growing at nine months, and in good stock condition will weigh from five to six pounds each.]

Legs of White Cochins (*E. Moore*).—Yellow is their proper colour.

LONDON MARKETS.—November 9th.

POULTRY.

There is an ample supply, but the trade is very dull, and last week's prices have not been maintained.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	1s. 9d. to 2s. 3d. each.
Smaller do.	3s. 0d. to 3s. 6d. ,,	Pigeons	9d. to 10d. ,,
Chickens	1s. 9d. to 2s. 3d. ,,	Rabbits	1s. 4d. to 1s. 6d. ,,
Geese	6s. 0d. to 7s. 0d. ,,	Wild ditto	10d. to 1s. 0d. ,,
Ducks	2s. 6d. to 3s. 0d. ,,	Pheasants	2s. 9d. to 3s. 0d. ,,
Hares	2s. 3d. to 2s. 6d. ,,	Partridges	1s. to 1s. 4d. ,,

Turkeys.....6s. to 7s.

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WEEKLY CALENDAR.

D M	D W	NOVEMBER 17—23, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
17	Tu	Single Anemones.	30.156—30.108	46—26	N.	02	24 a. 7	6 a. 4	3 a 53	1	14 49	321
18	W	Polyanthus Narcissus.	30.160—30.042	53—33	N.	08	26	5	4 26	2	14 36	322
19	Th	Purple Ragwort.	30.075—30.025	51—38	N.W.	02	27	4	5 11	3	14 23	323
20	F	Eupatoriums.	30.082—29.989	53—36	N.W.	01	29	3	6 12	4	14 8	324
21	S	Princess Royal born, 1840.	30.246—30.172	52—43	N.	—	31	2	7 23	5	13 53	325
22	Sun	24 Sunday after Trinity.	30.211—30.167	55—44	W.	—	32	0	8 39	6	13 37	326
23	M	Clinopodiums.	30.116—29.986	57—49	W.	—	34	III	9 57	7	13 21	327

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 48.5°, and 35.7°, respectively. The greatest heat, 62°, occurred on the 18th, in 1840; and the lowest cold, 15°, on the 16th, in 1841. During the period 84 days were fine, and on 112 rain fell.

PHOTOGRAPHY FOR THE MANY.

[We have received so many applications requesting that the papers which have appeared upon photography in our columns may be published in a collected form that we yield to the pressure, and in about five successive numbers and in large type will carry out, with some additions, our readers' wishes. We use a large type because we are told by Mr. Copland that this will enable the manipulator to read the directions while at work in the subdued light of the operating room.]

PREFATORY.

The thanks of all photographers are due to Sir David Brewster. He has exploded the old theory of expensive lenses with broad diaphragms. He has proved that a *more correct* portrait may be produced by a lens costing but two shillings than by a double achromatic, value fifty pounds.

The researches of Professor Hitchcock impart a new character to photographic study. He shows that "there is a literal sense in which the material creation receives an impression from all our actions that can never be effaced, and that nature through all time is ever ready to bear testimony of what we have said and done. Men fancy that the wave of oblivion passes over the greater part of their actions; but physical science shows us that those actions have been transferred into the very texture of the universe, so that no waters can wash them out, and no erosions, comminution, or metamorphoses can obliterate them."

"What if wicked men, as they open their eyes from the sleep of death in another world, should find the universe hung round with faithful pictures of their earthly enormities which they had supposed for ever lost in the oblivion of night! What scenes for them to gaze at for ever! They may now, indeed, smile incredulously at such a suggestion; but the disclosures of chemistry may well make them tremble. Analogy does make it a scientific probability that every action of man, however deep the darkness in which it was performed, has imprinted its image upon nature, and that there may be tests which shall draw it into daylight, and make it permanent so long as materialism endures."

We have done with theory; those who desire it will not find any in the following pages, from which everything unnecessary and imaginative has been excluded. This manual professes only to be a *practical* guide to photography.

"Mark how complete the image—every line
And feature pictured with unerring truth.
No blending colours, no prismatic hues,
To foil the sense, and lead the judgment wrong:
All is correct e'en to the slightest shade—
No artist could to such perfection reach,
Though gifted with a Raphael's matchless skill.
How small the cause! how mighty the effect!
And yet with what facility produced!
The ductile light, through the transparent lens
Passing without restriction, finds, behind,
The polish'd surface of the crystal glass
Solid and smooth, impervious to its force:
Repulsed, it back recoils, but underanged,
And the reflected image stands reveal'd."

The first photographic experience of the writer began at school. Having heard of the properties of bichromate of potash he bought some of a chemist, and was supplied with pale yellow crystals. A piece of paper being prepared with a solution of this chemical it was pinned in juxtaposition with an engraving to a window, where it remained a fortnight, the experimenter being rewarded with a very faint impression of the engraving. He had been supplied with chromate instead of bichromate of potash. From that time photography was all the rage among his schoolfellows. The sunny side of the playground wall was studded with nails, picture frames were at a premium, and, being converted into photographic presses, were attached to the wall. The forms of all the leaves in the garden adjoining were transferred to "nitrate of silver paper." Mysterious, unwashable spots appeared on towels and shirt fronts. Bedroom pillows, formerly used in bolstering matches, were now ransacked for specimens of feathers, and a stray peacock butterfly was esteemed a treasure, and was borrowed of the fortunate possessor until its markings were fairly worn off.

At last subjects failed, solutions became opaque, and photography died a natural death at No. —, Montpelier Terrace, Brighton, after an existence of eight months. Since that time the writer has taken up the study at odd times, and now lays before the reader the result of his experience.

If we take a Greek Lexicon and search for the words *graphein* and *photos* we shall find

"to write" and "light." From these two words "PHOTOGRAPHY" is derived, signifying "writing by light." Modern science has shown that this name is not a correct one, the photographic power not depending on the degree of light proper.

The effects of a ray of light are threefold, being *luminous, heating,* and *chemical.* It is with the *chemical* or actinic power of light the photographer has to do. The day may be bright and fine and the glare intense, yet there may be little chemical action. The weather may be cloudy, and the actinic influence great. The rays of the moon, though possessing *great power of illumination and some actinism,* contain *no heat.*

The operating room of the photographer, though light enough for him to carry on all his manipulation, contains no chemical force, it being excluded by a yellow screen, with which the window is covered.

"ACTINOGRAPHY" would be the proper word, but as so many of our old Saxon words (*e. g.*, telegraph, supplanted) have been of late corrupted by Latin and Frenchisms, we cannot afford to lose another, and must keep to our old friend "PHOTOGRAPHY."

We would recommend the photographic student to perfect himself in the "printing process" before proceeding to the higher branches of the art.

Photographic printing enables us to obtain copies of a leaf, flower, engraving, &c., by the agency of a property of light.

Let the reader obtain an ounce of bichromate of potash, and place it in a four-ounce phial of water. Then let him pour the solution into a saucer, and soak therein some pieces of ordinary writing paper. Upon putting one of these prepared papers in the sun, and placing a Rose or other leaf on the upper side, that portion of the paper around the leaf, and which is exposed to the action of the light, will be observed to darken. The leaf being removed, an impression will remain on the paper. Wash the pictures in clean water, when the bichromate will be dissolved from the unexposed part, leaving the form of the leaf sharp and clear. An engraving may be copied in the same way, but in this case the bichromate paper must be dried in the dark preparatory to exposure.

The photograph thus produced is a *negative* one; that is, what was light in the original is dark in the photograph, and *vice versâ.*

(*To be continued.*)

PRUNING THE VINE.

If an astronomer were to discover a new planet, or a new satellite to one of the old ones, the rest of the astronomers could tell how fast it would go, and which way it would take, because they understand the science of astronomy, or the theory of the stars. Just so with vegetable physiologists. They know the science or theory of vegetable life, and by that science or theory they can tell to a certainty the conditions which are necessary for any new or old plant in order to yield its produce, be it wood, or fruit, or any other product, in a perfect state. The law which governs the stars is a fixed law, and not one star can wander from its course; therefore astronomy is the easiest of all sciences to practise if once it be mastered. The science of vegetable life is as unalterable as that of astronomy, but plants can be moved from one end of the earth to the other, or all round it, without end at all, and the "natural conditions," in respect to vegetable life and production, vary at each stage of the journey round the earth; therefore the practical application of the science of vegetable life is one of the most difficult things a man can undertake, except in that place and under those conditions which are natural to a given plant. That being so, a boor may find out by chance the best way of managing a given plant, while the learned practical man may spend the best years of his life in arriving at the same result.

In England we have advanced so far on the journey that we can compete with all the nations of the world, and surpass them too, in the production of forced Grapes, but as a nation we are not nearly so forward in our knowledge of the outdoor management of the Vine as our fathers were, and even as late as fifty or sixty years back; but those who are old enough to remember the outdoor Grapes of that period put the saddle on the wrong horse when they say the difference is owing to the change of the seasons.

The Horticultural Society is old enough to remember outdoor Grapes coming to table just as good as the best greenhouse Grapes of the present day, for one of the Horticulturals told me the fact in Willis's Room the other day. The difference, however, is not altogether in the seasons, but in the education of the present race of gardeners in respect to the Vine out of doors. Every attempt which has been made in my time to explain or encourage the cultivation of Grapes on the open walls of England has been more or less thwarted, unintentionally, by practical gardeners, and by men of science, both of whom, propounding wrong doctrines on the subject of Vine culture out of doors, the practicals could anticipate no good result from any plan which differed from that which they found so productive under a high artificial stimulus; and science directed attention only to those rules which are infallibly, as it were, under natural conditions, and between the two we have little better than conjectures to guide our practice out of doors, while indoors practice and theory, perfectly sound both of them, seem as distant as the poles are asunder.

The English gardener, by a long course of anxious experiments, has found out that the smallest number of leaves which he can leave for his bunches will secure him the first prize for Grapes; and is it not *natural* that he should put much stress on his close pruning? But under different "conditions" the most backward of the nations of Europe, by mere dint of plodding industry, discovered that to cut a single leaf from the Vine was to cut so much from the profit of the vineyard—a new doctrine on this side of Europe; but at this moment Russian boors are applying the strictest rules of vegetable physiology to the cultivation of the Vine in the south-east of the Crimea, beginning twenty or thirty miles beyond Balaclava, and reaching nearly to Kertch, the finest Vine district in Europe, and where the wine is too good for profitable commerce. It is largely distilled, therefore, and sold for strengthening the wines of Italy and the Mediterranean islands, although we seldom hear of it. The man who superintended 3,000 acres of vineyard in that part of the east for many years told me of every movement in the whole process, from the planting of the Grape to the last drop of the whiskey, or brandy, or whatever they may choose to call it.

Well, between these two extremes, the close spurring in the hothouses in England and the not touching a leaf in foreign vineyards, in which all the conditions required by theory are present, how many degrees or different practices in Vine culture exist? and which of these degrees, if any, ought we to aim at in the open air in England? These questions remain yet to be decided, and the one which concerns us most, the degree to which we should prune, is in the most need of it, as the returns about my Vine amply testify, for out of seventeen returns in writing there is only one which hits the mark; and out of five by word of mouth, before the day at Willis's, one, a nurseryman who never forced a Vine, decided the right way, and four the contrary. But so universal is the practice of the hothouse in our day, that, instead of two out of twenty, the chances are that no more than three persons in three hundred would be able to predict my heaviest bunch. There is no one of the natural conditions which are required by theory that we can at all depend upon out of doors in England. The clause in the act of theory, therefore, which concerns us most is the sixth clause, which says that "the period of ripening in fruit will be accelerated by an abundant foliage, and retarded by a scanty foliage." And the fifth clause is the next in importance. This informs us that a Vine can "only form a certain amount of secretions" under certain circumstances, and out of these secretions the Grapes are formed this year, and also the leaves and young shoots of next season, *until the leaves of that season are old enough to secrete for themselves.* But this is as if a man received ample returns for his capital, and spent the whole of them every year upon himself and his household: he became neither richer nor poorer. To be poorer *he* must have spent more than his "returns," and she, the Vine, more than the leaves secreted. By good management, however, and with a proper knowledge of the "circulating medium," both the man and the Vine may increase in wealth without diminishing the "comforts" of self and family on the one side, or the size and flavour of the Grapes on the other side; and, as the leaves alone are capable of secreting for a Vine, or any other plant, the question we have to settle is this—What extent of leaf surface, *in the absence of all stimulants*, will secrete a sufficient store for all the requirements of the Vine and fruit, and leave a margin for future contingencies?

When a Vine is skilfully forced the stimulants increase its powers fourfold at least, if not sevenfold, and one leaf is thus made to do the work of from four to seven leaves; then the secondary leaves on the laterals have the same power, if not more, as the principal leaves have out of doors. It is true, Vines under glass lose from twenty-five to thirty per cent. of the rays of the sun, but that deficiency is more than counterbalanced by the uniform supply of heat and moisture, by not allowing the house to cool below a certain limit at night, and by a gradual return to a uniformly dry atmosphere as soon as the Grapes attain their full size. There is no country where the natural climate is so favourable to the Vine as this artificial treatment; hence the reason for the *seeming* difference between practice and theory.

Out of doors in England we have the reverse of all this, and, to suit our practice to the difference and be successful, we should reverse the indoor practice to a great extent—to a much greater than most gardeners believe. When the Vine breaks into leaf in the spring on the open wall, in the most favourable season it will be from three weeks to a month before the first of the new leaves are sufficiently ripe to secrete, or return a single change to the mother shoot. All is going out, as they would say in trade, during that time. If you stop the shoot an eye or two above one bunch, and let the next shoot go free, it makes not the smallest difference in the two bunches till the Vine is out of bloom. If I have tried this experiment once I have five hundred times, and never but with the same result; therefore, to say the least of it, the practice of stopping the shoots on the open wall before the Vines are out of bloom is injudicious, whether it be done in England, in France, or Italy, or anywhere else.

The opposite practice of stopping the shoots of forced Vines a joint or two before the bunch has the same meaning and the same effect—that of enlarging the surface of leaves artificially, so to speak; and if it is asked, Why not apply the same means out of doors? why not stimulate every leaf out of doors to the utmost extent it is possible to effect? the answer is this—To increase the power of leaves out of doors without being able to increase the "natural conditions," or, in other words, without being able to alter the character of our climate, would be doing more harm than good. The same remarks apply to the Vine border that, for the forced Vine, is made of the most enduring and most stimulating compost, or should be so; but that kind of border would ruin an outdoor Vine in a few seasons, by supplying to the roots three or four times more nutriment than the leaves or lungs could digest. In the one case we are able to increase the powers of the leaves enormously, that is, as compared with the same kind of leaves out of doors; and to meet the demands of that extra power we pride ourselves on the extra capacity of our Vine borders. On the other hand, we avoid rich, stimulating borders for all our outdoor wall fruits, having learned by sad experience how deceitful it is to increase the powers of the roots without altering the climate in which the leaves exist.

Vine borders, therefore, for outdoor Vines are made, by those who understand the subject, just like Peach or Pear borders, and nothing more. The land of my Vine border (for it is nothing more than the common land of the place) was not dunged "to any account," according to Mr. Austin, my next-door neighbour, for the last six-and-twenty years before 1851, when I broke it up, and I told Mr. Austin that if I lived for the next six-and-twenty years it would "fare" the same. As far as the Vine roots could go it is a sandy, black soil, about twenty inches deep, over a perfectly level bottom, which is half clay and half irony sand and small stones to the depth of sixteen feet certain, for that is the depth of my well. It is twelve feet wide, and drained better than usual, the drains being first of large glazed pipes for sewerage, and on each side of them and over them a rubble drainage of small stones to dry the land. The drain which eases the Vine border is seven feet deep at that part, and falls rapidly to nine feet into a main sewer. The subsoil of the border never gets perfectly dry, and no water can stand in it. I added nothing to the natural soil except a few broken brickbats near the surface, and six weeks after planting the Vines, in May, 1851, I concreted the whole surface of the border twelve feet wide and fifty feet long, and so it is to this day, and will be as long as I live. The concrete was not very strong, however. It was made from the refuse lime and rubbish which bricklayers and plasterers leave about a new building, mixed with sharp gravel from the Thames, with a slight coat of good gravel on the top to look like a walk; but it was three inches deep in order to bear the burdens of a "back yard," which it really is. Well, the back yard has sunk nearly two inches since, and no doubt the concrete admits a little water through its substance in heavy rains, but not much, as there is a slope of three inches in the twelve feet, and the surface is as hard and smooth as any walk can be. That winter of 1852 the coals here rose 16s. a ton from the last June quotation, and I was "catched." Since then I lay in my yearly consumption of "best Newcastle" in June, when it is cheapest, and, if you believe me, I

was obliged to make an extra coal cellar immediately over the roots of my best Vine. Since then there have been four feet deep of coals over eight feet in front of that Grape Vine every summer. Mr. Kidd, who is as well known in our line as the writer, has seen this arrangement, and knows that my Grapes were quite as good last year as those he saw from me at Willis's Rooms.

The best account we have in The Cottage Gardener of a Vine border for outdoor Grapes is from a gardener who signs himself "Upwards and Onwards," in Vol. XVII., under the title "Grapes for the Million." But I am the more particular about my border, because I am going to make a declaration, as if it were on oath, after nearly forty years' experience, to the effect that it is entirely and altogether wrong in practice and in principle to stir, fork, or disturb the surface of a Vine border in any part of the world, if that part happens to be on the confines or limits of Vine cultivation in the open air; but as you move to the meridian from either side of the line this rule must be relaxed till you reach the ultimatum, where it may be sound practice to make borders for outdoor Vines just as good as we in England make for them under glass; and my reason is this—that the nature of the Vine is so excitable that the least degree of artificial stimulus pushes the roots beyond the power of the leaves, and merely stirring the surface of a border is the lowest degree of cultivation. This declaration, however, is on the supposition that there is a balance of power between the roots and the leaves—a very significant expression, which is used by all good writers on fruit trees; but if the roots are in bad soil, or seem to lose that essential balance in any other way, cultivation must be resorted to in order to restore the balance. All fruit trees, and the Vine more particularly, should be worked under power, as an engineer would say; that is, a less crop than the Vine could bear should be aimed at in order to keep the tree in powerful health. A practised eye can perceive, at the time of swelling, whether the roots are sufficiently active to carry out the crop, and if they are not so recourse must be had to watering the border, say in June and July, or perhaps a little later, according to the season.

After the Grapes come to their full size the rest of the process depends on the action of the leaves, not on the activity of the roots. The delicate point is to ascertain how late in August it is profitable to allow the growth of new leaves. The time it takes for a leaf to organise itself before it can add anything to the secretions from the old leaves depends upon the weather more than the roots. Every leaf, from beginning to end, draws on the resources of the tree for a given time without affording the smallest assistance to the tree or fruit; therefore, if leaves come so late in the season that they have only sufficient time to make good their own strength, they only rob the tree, and it is bad practice to allow them. There is a very great and a very general error among some of our very best practical gardeners at this very point. They say these late growths, which we all know very well can add nothing to the secretions, do good by encouraging the extension and activity of the roots; that is, just doing so much harm at both ends of the system. The activity of the roots is in proportion to the demand on them by the extent of leaf surface actively secreting matter for the fruit and general system of the tree, say some day in August; increase that activity by a larger surface of leaves that can do no good, and it comes to what I say—exerting roots and leaves to no purpose. "But how can you prove that leaves do not act as soon as they are expanded?" they will ask. "Leaves, you say, are the lungs of plants, and the very babes make use of *their* lungs as soon as they perceive the fuss which is made about them on coming into this world, and why not leaves?" Yes; but babes do not work by reason of their tender age; they add nothing to rent days and pay nights, but suck and suck all the time; and as for noise, there is rustling among the leaves when anything is in the wind. Besides, a leaf feeds in two very different ways: first, through the tubes in the footstalk, it sucks from the roots; and, secondly, when it arrives at maturity, not before, it feeds from the air by many mouths on its own skin, and an evil-disposed person might poison it from that moment by poisoning the air it breathes, but without "intent." Unfortunate accidents have poisoned the air over and over again during the different stages of a leaf's infancy; but the leaf not being yet able to breathe or imbibe the poison through its breathing pores escaped death. At last, on the very evening of its first respiration it died in these very hands of mine. Free ammonia was the deadly agent; and to prove my words you have only to charge the air of a plant house with it, and every ripe leaf in it will perish in one night, and all the young leaves will escape the dose. I have seen this proved repeatedly. A man perishes at the bottom of a well by breathing "foul air;" a leaf is killed in the same way, but not until it begins to breathe, and until it does breathe it has no power to secrete for the good of the system. But there is another side to this question: we may stop the Vine at the very joint which is most profitable to the tree, and yet be a good many joints beyond what is profitable for the Grapes. When we grow on the long-rod system, which is the best out of doors, and is that which I practise, but is not the best under glass, we are safe if we stop the long shoot from the 10th to the 20th of August; but on the spur system out of doors the spur ought to be stopped just when the Vine is in and out of bloom, for it is at that moment that rivalry begins between the berries and the extending shoots, and all that I gained by the last thirty-five joints above my largest bunch was one ounce, a very poor return in Grapes; but the Vine is much strengthened by the large surface of working leaves. Perhaps, also, the other bunches near received weight from the long shoot, but that is too deep and speculative to enter upon here.

To sum up in a few words, what I recommend is this:—Plant Vines in good sandy soil, such as would grow good Cabbages, not more than twenty inches deep; stop every shoot on the 15th of August, or not later than the 20th, nor earlier than the 10th till you come to fruit. The fourth year is time enough to crop, but prove your sorts by a bunch or two as soon as they offer. Stop all spurs on the spur system when the Vine is in bloom, and not till then; but choose the long rod if you can manage it, as being a much better system out of doors, and with the long rod you may stop before the bunches as they do hothouse Grapes, at the first, second, third, or fourth joint before the bunch, according to your room, and if you have more room do not stop till the Vine is in bloom. Laterals do as much harm as they do good by shading the wall. I never allow a lateral leaf out of doors, but I only take off the leaf and the growing point *after two joints are made.* Laterals are indispensable in forcing. Prune any day in October—the sooner the better. Tread your Vine border very hard, and rake it over and keep it raked in summer to save the ground from cracking. A coat of gravel would be better. See "Vines" or "Grapes for the Million."—D. Beaton.

P.S. I hereby tender my public and most hearty thanks to Mr. Fenn, the author of the following very practical views on the cultivation of outdoor Grapes, and to his employer, the Rev. Mr. St. John, for the trouble and expense of sending me samples of their beautiful and most delicious Grapes from all the modes of pruning described below, which tell their own tale, leaving me no more to say than that the Grapes might pass anywhere as "hothouse Grapes."

I may mention, however, that the experiment of cutting out the buds from the shoots of the Vine was first recommended by Mr. Roberts, in his treatise on the Vine, about fifteen or sixteen years back. I tried it to some extent for three or four years, and wrote something about it, but where I cannot just now recollect.—D. Beaton.

"When one considers the millions of square yards of blank walls that could be made available for the growing of the Grape, I consider our subject of the present mooting of almost national importance. I send you some specimen bunches attached to their spurs, grown on the open walls of old England, for your occular and palatable judgment. Why the flavour is not so good in the long-rod berries I take to be because nature has so many buds to mature, that a compromise of the essence of the sap, so to speak, is made between them, and the fruit thus proves inferior, comparatively, to those bunches on the spurs that are shortened to three or four eyes, which must of necessity prove monopolisers of all the good things that arrive to them. If I should live till next year I intend to remove every bud from the axils of the leaves of some long rods, and so try and find out if my theory is correct.

"Out of twenty examples growing before me I find the longer the branch the less the bunch, and No. 11 is a specimen bunch grown on a rod stopped at thirty buds before the fruit for you to compare with the other samples sent. On the other hand, a plurality of infant leaves proves antagonistic for the fruit, and in half the cases that we witness for open air Grape culture, and, in fact, other fruits as well, is it not a failure entirely through encouraging too much growth and leaf?

"The Grapes sent must compare themselves with themselves, and not with the Grapes at Surbiton, which fare far better for climate than those of this latitude, for I would almost venture to undertake to ripen Grapes in the College garden at Elgin, N.B., taking the majority of seasons, quite as successfully as I can here (Woodstock). There, as probably you are aware, is to be found a soil like unto that which Mr. Robson lately mentioned for growing Grapes under peculiar circumstances.

"The tale of the tub reconciles itself into this. The notches cut on the spurs mean—

"No. 1. *Sweetwater*, stopped at twelve buds before the fruit, and from which, as you can perceive, I cut a brother bunch, mentioned on the 21st of September.

"No. 2. Ditto, stopped at three buds. Ripened under a glass, under cover of which they have been ensconced since they were no larger than early Peas. The cover admitted both bunches at once.

"No. 3. Ditto, stopped at four eyes before the fruit. One of the bunches on the spur has been protected with a cover since the 18th of last month; the benefit clearly perceptible.

"No. 4. *Black Esperiones*, stopped at four buds. Ripened under a glass, under cover of which they have been since they attained to the size of Marrowfat Peas.

"No. 5. Ditto, stopped at twenty buds. Ripened in the open air.

"No. 6. Ditto, stopped at one bud. Ripened in the open air.

"No. 7. Ditto, stopped at four buds. Ripened in the open air.

"No. 8. Ditto. This bunch was allowed to fruit on an eye which burst from the old wood on the stem of the Vine, viz., a bud which was not in existence, not *matured* on the previous season. This I consider a great wrinkle towards outdoor culture. There is at least a fortnight lost from that circumstance in the ripening.

"I was obliged to cut the rods in order to accommodate them for packing, but Nos. 5, 6, 7, and 9, are one and the same branch to match. No. 10 is the continuation of No. 1. My vintage takes place to-day. It grieves me to gather the Grapes, they look so handsome against the walls of this old house that good Bishop Fell built. One or two consolations remain, however, and a wash-keller full of Grapes forebodes a curtailment of the wine merchant's bill. I manufactured a barrel of rhubarb wine this spring: it goes on very well, and I intend to make champagne of it."—Robert Fenn.

SHRUBLAND PARK.

(*Continued from page* 82.)

In the *fruit department*, between rows of Gooseberries grown in the usual way, with stems above the ground a foot or so in height before they branched out in the bush form, were rows of standard Red and Black Currants, with clear stems from three to four feet in height. When the heads get large I should imagine strong supports would be necessary to secure them against wind. Altogether I should deem such high standarding of fruit bushes more desirable for variety and novelty than mere utility. By the sides of a walk Gooseberries (*Warrington* I suspect) were trained to a trellis formed of stakes, and were protected from wasps, &c., with mats. Fine late fruit may also be obtained by growing the trees on a north wall, or on a north border, and protecting them with Nottingham lace netting.

Along the borders were a number of fine, healthy, young standard Pear trees that had made shoots of great length and vigour. Some of these had been moved and replanted the previous year, and now were everything that could be desired. The strong, healthy-growing ones were to be operated upon the first opportunity. When so very vigorous such replanting is preferable to root pruning, as sometimes a strong tap root will escape.

The walls of the garden looked very neat, being all coloured of a light stone colour. I do not think it was anticorrosion, and if mere lime colouring it would be worth knowing how often the process had to be repeated. The walls were all studded with nails, previously heated and thrown into oil I suspect, and to these nails the shoots were tied, and, consequently, there were neither glaring shreds, reminding one of a tailor's shop, nor unsightly holes in the wall—the best of all harbours for insects and their eggs. Some Peach trees were netted to keep out the wasps, but the fruit left on the walls was chiefly Pears, and they a heavy crop.

As preparatory to forcing I noticed what I calculated to be nigh upon 3000 Strawberry pots in excellent order, chiefly *Keen's Seedling* and *British Queen*, but so far as I recollect a good number of *Cuthill's Black Prince*, *Ingram's Prince of Wales*, *Alice Maud*, and *Sir Harry*. Two facts I would wish to record, because, in addition to their importance, they are so corroborative of the teachings of this serial. The first is, that the pots were all standing on a hard bottom, not too close together, in an open sheltered place, exposed to almost every possible ray of sunshine, and showing that the runners had been potted early, but no runners allowed to grow afterwards. Some people will continue to shade their plants, and continue to wonder that from such a large unripened bud they can get but such a small modicum of fruit. The second fact is, that whilst the great bulk of the plants were in six-inch pots, or 32's, a great number of the *Black Prince* and *Keen's Seedling* were in four-inch or 48-sized pots, these being intended for forcing early.

In a lean-to Fig house, the plants against the wall, Mr. Foggo had cut down a trench through the roots about three feet from the wall, and built a wall under ground to prevent the roots having so much feeding ground, for the purpose of checking their luxuriance and making them more fruitful. Even this has not been quite sufficient, and, in addition to a thorough thinning of the present shoots, he proposes cutting down at the back of the wall, thinking the roots must have an outlet in that direction. The more stumpy and short jointed a Fig shoot, provided it is vigorous enough and well ripened, the better will it bear, and the higher flavoured will be the fruit.

Orchard House.—This is a very nice building as a lean-to house with a half-span roof. The length is 100

feet, width fourteen feet, and height I should say about the same as the width. The front is upright glass, something in the way of the narrow houses at Trentham, and composed, in fact, of the old front of the conservatory. This is what I alluded to when speaking of that building; but in speaking of its front the word *new* was changed to *now*, which rather deranged the sense. I presume the upright front sashes open. There is also, between the sill on which they rest and the soil, a narrow luffer board to open or shut. There is also air, as far as I can remember, by the hipped part of the glass roof, and there are likewise openings in the back of the wall near its top. The back wall is furnished with nice young trees of the Peach and Nectarine, with wood strong enough, but with fine plump buds for next year, and by which time any extra strength may be disposed of by taking a little more fruit than otherwise would have been deemed necessary. The front of the house is supplied with dwarf standards of Apricots, Plums, Cherries, Figs, &c., planted out, and others in pots where there is room. At one end of this orchard house, shut off with Nottingham netting to admit plenty of air and keep out wasps, were some good plants of Vines in pots, bearing excellent bunches of well-coloured fruit. On one Vine, which I took to be the *Black Morocco*, were five fine bunches, the berries regular and swelled beautifully, though most gardeners know that this is a shy setter. The readers who recollect the description of the orchard house at Basing Park will perceive that this one at Shrublands differs from it chiefly in the high upright glass in front, the growing of standards there instead of on a trellis, and the want of the openings for air at the base of the back wall.

Vines in Pots.—The mention of the above will prepare the reader for the fact, that Vines are thus successfully cultivated here, and to a great extent. Behind a north wall covered over with mats Mr. Foggo showed me some scores of pots, the rods stripped of their foliage and pruned to the requisite length, each rod as thick as my finger, wood very short jointed, with round prominent buds, telling plainly that if anything like justice were given them the great thing for the gardener to attend to would be leaving no more bunches than the Vine would bring to perfection. Some of these rods were rising the second year, but many were from buds inserted early this year. They had been grown in pits, when nearly perfected brought out in front of walls and glass houses full in the sun, and then moved to this cool place, after which they were pruned, and induced to take a winter's nap before starting early. In a low house we found fine plants of *Muscats* in pots still growing vigorously, the wood just beginning to brown, and the buds in the axils of the leaves as round and plump as the point of my finger.

Treatment of Old Vines.—In the vineries the proceeds were not altogether satisfactory, though the wood and the foliage seemed good. Even with this supply from pots, by which means Mr. Foggo might have a house in full bearing in two years, or three at most, he prudently made up his mind not to do away at once with the Vines of even one house, lest the slightest deficiency should be felt in consequence. As the Vines, however, are planted inside the house, and the roots spread there, as well as go into the outside border through arches, he has raised the roots inside, and placed them in a fresh border, and as soon as they are working freely he will raise the roots outside, examine the drainage, and place the roots nearer the surface in fresh compost. Middle-aged Vines generally do well under such treatment, and if some should not please afterwards a few of these strong Vines turned out of their pots would soon supply the want.

Cucumbers and *Melons* are cultivated largely, the latter both early and late, the former all the year round, and principally in low houses that may be called half spanned, or with a short hip of glass at the back. This half-span is also much used for stove plants, the walk being generally in the middle, and a bed on each side. In these Cucumber and Melon houses the bed is in front, the walk below the ridge, a platform or shelf at the back for Beans, Strawberries, &c., and below the ridge, but a little nearer the front, is a shelf placed longitudinally for Strawberries, &c. In many other such places I expect numbers of the 48 pots are forwarded in their early stages, and brought into more heat to swell them off. The beds are heated beneath with hot water; but what I wish chiefly to chronicle is, that the plants are not turned out, but are *grown in large pots plunged*, and it would scarcely be possible to see plants more healthy and prolific. After saying so much upon growing such plants in pots, or otherwise curtailing the extent of their root action, it was rather pleasant to find here such an extensive and successful corroboration. One other incident is worth mentioning. When training Melon plants to a trellis I used to suspend a piece of net beneath the fruit to prevent accidents. Mr. Foggo has got a much neater method here. He has a number of neat short stakes fitted with a flat square board at one end, say three or four inches square, by means of a nail driven through its centre and into the end of the stake. Every fruit has one of these boards to rest upon, the other end of the stake being on or in the bed. In one house there was a good crop of these late Melons.

I saw symptoms that there would be plenty of forcing of Asparagus, Sea-kale, &c., for the winter; but I have already occupied so much space that I must not say more of the kitchen garden than that there were good beds of Celery then in use grown on the old Scotch system, and that we noticed a row of very large-leaved *Sorrel*, and which I thus particularly mention because a gardener then present, but whose address I have not got, stated that he had a *Spinach* that grew much in the same way, and if not a perennial, was very near to it in its continuing to produce so long from one sowing, and in every respect as good as our common annual Spinach, which requires sowing so often in summer. If this meets his eye any information will be acceptable.

A few questions have been put to me which I may dispose of at once.

1st. "Is there much to be seen at Shrubland besides flowers?" The latter part of this article must be my reply.

2nd. "Did you ever before see such striking and extensive masses of bloom?" Yes, frequently; and even more massive and extended, if you mean as could be seen from any one place, and the beholder standing on *terra firma;* and that blaze of colour produced by arrangements distinguished for their simplicity rather than any attempt at the artistic—one of the striking features at Shrubland, but which I leave out of view when replying to a question involving mere masses of contrasted colours alone.

3rd. "I should like to obtain an order for myself and my trusty Friday for next season, but I fear it will make the good fellow dissatisfied; and I also doubt if I should like my own little place so well after seeing such grandeur." Obey your first impulse, and send your fears to the winds; at least give Friday the treat, and you will be sure to have three times the worth of the expenses in benefit in no time. Dissatisfaction with ourselves and doings is the first step to improvement. Grumbling dissatisfaction that we have not the variety, grandeur, and extent of some one else who possesses and employs twenty or fifty times the resources, is one of those low, degrading forms of envy with which I can have no sympathy save that of pity, and more especially because it so blinds the judgment as to prevent the right use of the resources within its reach. The farmer's wife who

manages a couple of flower-beds in such a manner that even Lady Middleton could hardly make them more beautiful is not only worthy of *all* honour, but gives the best evidence that with increased resources she would manage twenty *nearly* equally well. I have put in the word *nearly* advisedly, because the smaller the garden, other things being equal, the brighter and more telling should it be; and it is easier to make it so than when various gardens have to be attended to. Look on a couple of beds a tangled mass of flowers and weeds, and where and what would be the condition of twenty beds? Superior quality and beauty, be the sphere of their action small or large, will ever command approbation; and without these mere extent will only be an extensive annoyance.

4th. "What do you consider are the peculiar features of this famed place?" I have already indicated them; but to please you will recapitulate and say that these are, that as a whole no branch of gardening is neglected, though some are brought more prominently into notice than others; the fine position of the mansion, which has given a tone to the varied systems of ornamental gardening employed; the refraining from planting whatever, and however beautiful in itself, would have interfered with the unique style adopted; the happy blending of the architectural and artistic with a highly refined gardenesque, and these at times suddenly contrasted with a picturesque so wild as to possess a dash of the romantic; the not astonishing you so much with one or two blazes of well-contrasted colouring, such as you might see in smaller places, as in keeping you delighted and interested by extent, variety of scene, sudden contrasts, and diversity of styles and varied combinations in the different gardens, and each complete in itself; the fitness and suitability generally apparent, as witness the fountains in the bosom of the valley, the very position precluding all inquiry as to whence the water; the——But I must shut the ink box with chronicling one more important feature, namely, that the greater part, if not the whole of the splendid mansion as it now stands has been built, and the whole of these extensive gardens formed, since Sir William Middleton and his lady have come into possession of the property; and farther, that with the characteristic generosity that enjoys its happiness none the less because others share it with them, they cheerfully give up the Fridays to all respectable visitors who have previously applied for and received a card of admission.

R. Fish.

Erratum.—Page 82, first column, second paragraph, seventh line, "with lime" should be "in time."

BEDROOM DECORATION.

"Oh, give him taste! It is the link
Which binds us to the skies—
A bridge of rainbows thrown across
The gulf of tears and sighs;
Or like a widow's little one—
An angel in a child—
That leads him to his mother's chair,
And shows him how she smiled."

In your columns we have been favoured with some interesting descriptions of gardens; but the writers seldom penetrate into the house, much less to the first floor thereof. To show you that the admission of vegetable life into bedrooms is more in vogue than formerly, I will give you a rough sketch of such an apartment which I was privileged to enter, and have permission to describe. The occupier of this apartment recognises the principle that—

"Whatever cheerful and serene
Supports the mind, supports the body too."

On entering the door on the right hand is a chest of drawers; over this a glass bookcase containing the cream of the library; on that is a model of a man-of-war, made many years back by French prisoners at Portsmouth. The hull and masts were fashioned from the bones supplied these men at their dinners; the ropes were made of their hair; and the case, which resembles *parqueterie*, from the straws of their cells stained. At the side is a statuette in wood, and preserved animal organisations in spirits. The whole is surmounted by various pictures printed in colours. From the cornice over all droops the royal standard; then on the same side of the room come the bed and some architectural lithographs.

At the end of the room is the window with balcony, from which spring clusters of blossoms of intermingled *Calystegia pubescens* and *Tropæolums*. These run up either side of the window on lattice-work. From an ornamental *terra cotta jardiniette* rise plants of *Lysimachia nummellaria*, covering a wirework screen with their golden blossoms. Fronting the window are the toilette-table, glass, &c. In the first break on the left hand side of the room is the washhand-tand; over this engravings and pictures in oil colours. On either side trophies from Brazil, specimens of natural weaving, and, above all, an outstretched scarlet flamingo and peacock's feathers. The middle projection contains a gas stove with flue entering the chimney; above this the mantelpiece. At each end is a case of Ferns and Mosses arranged amid rockwork, coloured scenery at the back imparting an additional charm. Most of the specimens were transplanted from the "poor man's garden."

"For in the poor man's garden grow
Far more than herbs and flowers:
Kind thoughts, contentment, peace of mind,
And joy for weary hours."

Over one of these cases we find the lines—

"The green and graceful fern,
How beautiful it is!
There's not a leaf in all the land
So beautiful I wis.

"Have ye e'er watch'd that ball unfolding,
With each stem and leaf wrapp'd small,
Coil'd up within each other,
Like a round and hairy ball?

"Have ye watch'd that ball unfolding,
Each closely nestling curl,
And its fair and feathery leaflets
Their spreading forms unfurl?

"Oh, then most gracefully they wave
In the hedges like a sea,
And dear as they are beautiful
Are those fern leaves to me."

Over the other case—

"The tiny moss, whose silken verdure clothes
The time-worn rock, and whose bright capsules rise,
Like fairy urns, on stalks of golden sheen,
Demand our admiration and our praise
As much as cedars kissing the blue sky,
Or Krubul's giant flower. God made them all,
And what He deigns to make should ne'er be deem'd
Unworthy of our study and our love."

Between the cases is a duplex statue in plaster, and amid the centre ornaments a bouquet of choice flowers.

Over the mantelpiece are views of the localities in which the Ferns were collected—Llangollen Vale, Tenby, &c. Above up to the ceiling are photographic and lithographic portraits, surmounted by the Art Union head of Christ.

In the next break we find pictures printed in colours, and a heating flue in connection with a system of hot-water apparatus. Lastly, next the door is situate a clock, more pictures, thermometer, hygrometers, barometer, and a table with Wardian case, containing Ferns and Mosses, many of them exotic.

I put it to your readers whether this style of decoration is not more desirable than that of the old *régime*. "Of all modes of enlivening the aspect of an apartment there is, perhaps, none more pleasing than the sight of plants and flowers suitably arranged and distributed. The enjoyment and instruction they afford are within the reach of all; the poor may partake as well as the rich. Great means and appliances are not needed. To the thoughtful mind the contemplation of the phenomena of vegetation is a constant source of interest." Especially is this so to the Christian. Whatever he finds

"Of beautiful or grand
In nature, from the broad, majestic oak
To the green blade that twinkles in the sun,
Prompts with remembrance of a present God."

—E. A. Copland, *Bellefield*.

MAMMOTH PUMPKINS AND THEIR USES.

Some short time since I saw in The Cottage Gardener a notice of a *Citrouille* that was five feet in circumference, and regarded as very large. I have just cut one measuring upwards of seven feet round, and weighing upwards of one hundredweight and a half. From the same plant I cut one a month since weighing eighty pounds, and at various times a large number of smaller ones from twelve to twenty pounds. The only manure used was a small quantity of fowls' dung washed into the ground from time to time.

My object in writing this is to call attention to the uses of this vegetable, which, so far from being as useless as ordinarily represented, we regard as one of the most valuable in our garden. Pumpkin pie we have not much faith in. Preserved Pumpkin, according to a recipe in a late number of The Cottage Gardener, my wife says will not keep. Our mode of using these mammoths is to cut off five or six pounds in pieces of a convenient size, boil them until soft, then take off the peel, which is very thin, press out the water in a colander, and mash in a saucepan with a small piece of butter, some pepper and salt. Such are the directions I have received from the culinary authorities, and I can safely assert that, as thus prepared, it furnishes a most valuable table vegetable. The flavour may be judged from the fact that I have generally received applications for a fresh supply from those persons to whom I have given a piece.

There is, perhaps, one drawback to their use, namely, that after having been cut into, the Citrouille will not keep more than three or four weeks, during which time it is difficult for a small family to dispose of 170 lbs.; but once give some with proper directions to your neighbours, and there will be found no difficulty in getting rid of an unlimited supply. I should also mention that the riper the fruit, when cooked in the manner recommended, the better, being firmer and less watery.

Should any of the readers of The Cottage Gardener like to try the plant I have reserved the seeds of the largest, and shall be willing to distribute them as far as they go on receipt of stamps and directions.—W. B. Tegetmeier, *Tottenham, N.*

METROSIDEROS ROBUSTA.

Received from J. C. Bidwill, Esq., in 1845, from New Zealand, as *Myrtus robusta*.

A handsome evergreen bush, with neat, opposite, oval, flat, emarginate leaves, and small clusters of rich crimson flowers, with long crimson stamens surrounding a cup-shaped, green, wavy disc. The foliage has a rich aromatic odour, but the flowers are scentless.

It is said by Mr. Cunningham, who first described it, to be the *Ratu* of the New Zealanders, "a noble tree, which not unusually attains the height of eighty feet. The wood is hard, close-grained, very durable, and hence admirably adapted for ships' timbers and the construction of agricultural implements." It, however, flowers abundantly in the greenhouse when not more than three feet high.

A free-growing plant, which requires the protection of the greenhouse in winter. It thrives in a mixture of sandy loam and peat in equal parts. It is increased by cuttings, and flowers freely in June.

A handsome evergreen shrub for planting in a conservatory or growing in a greenhouse.—(*Horticultural Society's Journal.*)

NOTES FROM THE CONTINENT.—No. 13.

DRESDEN.

From the capital of Prussia to that of Saxony is an exceedingly pleasant trip of 117 English miles; and though the trains usually occupy six hours in accomplishing the distance, it is rather an advantage than otherwise, as there is so much to observe by the way. The train carries us first through the circle of market gardens by which Berlin, like all large cities, is surrounded. The first week in August was the period at which I made the journey; and as we passed onwards among the fields we found the harvest just commencing, while in some of the more favoured spots a second crop of hay was being cut. In all the agricultural operations the women were taking quite as active a part as the men. At about ten miles from Berlin we crossed the old battle-field of Gross Beeren, where in 1813 the Prussians gained a signal victory over the French; it is now under cultivation, and covered with a crop of Potatoes. The first thirty miles of country are remarkably flat, but there is a gradual improvement in the soil, as is evidenced by the various crops. There are no hedges to be seen, but the fields are usually divided by a narrow trench, or more commonly only by a line of turf. Many tracks of ground I noticed covered with a yellow species of Lupine, which, as it was in flower, had a beautiful appearance: on inquiry I learned that it was to be ploughed in as manure. I saw only a few sheep, and scarcely any cattle except the oxen drawing the waggons of corn or harnessed to the plough. Fir plantations often diversified the landscape or darkened the carriages as we passed through them. Near Jueterbog (about thirty-two miles from Berlin) the country begins to assume a more undulating appearance, and the scenery is very similar to that of the South Downs in Kent and Sussex, one feature of difference, and almost the only one, being that the various roads leading from one town or village to another are usually planted with avenues of Poplars. At Pristewitz we passed through a tunnel 500 yards long—the only one on the line. The hills are higher at this point, and approach the railway more nearly, their southern slopes being covered with vineyards. These were the first I had ever seen; and I must confess that, though they present a

very pretty appearance, yet they did not come up to the idea I had previously formed of a vineyard. The large fields of Clover, Rye, or Potatoes now begin to give place to market gardens, when, making a curve round the foot of a hill, Dresden appears before us, with its palaces, its magnificent churches, and the swiftly flowing Elbe.

I proceeded at once to the garden of the Japanese Palace, but was disappointed to find it little better than a third-class nursery garden. Napoleon called England "a nation of shopkeepers," and parrot-like the world continues to repeat the phrase, never stopping to ask if it be true that that commercial spirit is more developed in that country than elsewhere. The London nurserymen would look astonished, I believe, if purchasers went to Frogmore or Kew instead of visiting them; and yet such is the state of things in Germany. A friend of mine wished to have a hundred Azaleas, and bought them at the Palace Garden, because he could get them there cheaper than in the nurseries. The nurserymen of Germany have to compete against the Botanic Gardens, and by far the greater proportion of private gardens sell plants if there is an opportunity. There was really nothing worthy of note in the Palace Gardens, although they were somewhat extensive.

The Botanic Garden is cramped for room, but the most has been made of that which they have. A little piece of ground, laid out with turf and winding walks, has lately been added for the hardy trees and shrubs. It is near the pleasantest promenade in Dresden, and, being always open to the public, makes a much-frequented resort for the citizens. The curator of the Botanic Garden was making some experiments with an insect-destroying powder: merely sprinkled over the dry foliage it immediately killed the thrips and red spider. He did not know for a certainty from what it was made, but believed it to be a species of Pyrethrum dried and powdered. Clerodendrums, Achimenes, Gloxinias, &c., were flowering freely under a canvass awning. Here also were placed the Orchids in flower, Miltonias, Stanhopeas, and Oncidiums: by this means they keep in bloom much longer than in the stoves. One of the most interesting plants I saw was *Cycas circinalis*, producing a large head of female flowers. The mention of this plant recalls to my mind a curious custom in Saxony. At a funeral the principal mourners usually carry fronds of *Cycas revoluta*, or some similar plant, in their hands. This has led to a great demand for Cycadaceous plants, and in several gardens I saw houses devoted entirely to their culture. No one possessing a *Cycas* can be prevailed upon to sell it, as it is a source of considerable profit. Each frond is worth at least a dollar (three shillings English money).—Karl.

Large Citrouille and other Cucurbits.—I have now on view in my shop window a Citrouille, or Gourd, 250lbs. in weight, and eight feet one inch in circumference; a Vegetable Marrow 88lbs., five feet in circumference, and four feet long; a Melon grown *out of doors* 18lbs. 10ozs. in weight, and exquisite flavour.—E. Persac, *Exeter*.

BOOKS ON BEES.

Some of your readers or correspondents are, no doubt, acquainted with many of the older publications on the subject of bees that have appeared in our own and other languages. I have a good many of various periods, but I lately met with one of which I was previously unaware, containing a mixture of much good sense and quaintness peculiar to the period in which it was published (1634). Perhaps some apiarian friend will favour us by saying whether mention of the work is to be found anywhere to his knowledge. The title is as follows:—"The Ordering of Bees, or the true History of Managing them from time to time, with their Honey and Wax, showing their Nature and Breed, &c. set forth in a Dialogue, resolving all doubts whatsoever, by the late unparalleled experience of *John Levett*, Gent." The work is edited by his son, with a dedication "to the vertuous gentlewoman, *Mrs. Dorothy Kemp*, wife to the Right Worshipfull Mr. Robert Kemp, Esquire, one of His Majisties Justices of the Peace in the county of Northfolk," with some verses more flattering to the lady than poetical. Following is an address, written by *Gervase Markham*, "to the memory of the thrice worthy gentleman, Mr. John Levett, deceased; and to the eternity of his well-taken labour in this most excellent and profitable relation and history of Bees." After almost exhausting the dictionary of words sufficiently complimentary to the apiarian labours of the author, the address concludes, "And he that in this art will look beyond this, let him look beyond the moone; I will neither lend him mine eyes nor my commendations.

'Non quantum sed quale, Jovis primordia parva,
Rebus in exiguis grandia sæpe latent.'"

—An Old Apiarian.

BOUVARDIA CAVANILLESII.

Raised from seeds received from Mr. Hartweg in January, 1846, from Mexico, as a species of Bouvardia, with "scarlet and yellow flowers."

A hairy bright green shrub, with short-stalked ovate leaves, intermediate three-toothed stipules, and scarlet tubular smooth flowers, nearly an inch and a half long. The segments of the corolla are very sharp, and spread flat when fully expanded. In a wild state it forms a stiff bush, with short lateral upright arms, having about nine flowers at the end of each. In cultivation it is about as graceful as a *Fuchsia macrostema*.

It is a small greenhouse shrub, requiring the same kind of treatment and soil as the old *Bouvardia triphylla*, and freely producing its flowers from the old wood if rather stunted. It should be kept nearly dry all the winter. It is handsome when not overgrown and old, and flowers all the summer and autumn.—(*Horticultural Society's Journal.*)

FLORISTS' FLOWERS.

ROSE CULTURE IN OCTOBER AND NOVEMBER.

(*Continued from page* 71.)

Hybrid Perpetual Roses.—This class is deservedly highly esteemed. It is difficult to imagine any bloom of any class of flowers so gorgeous, so elegantly formed, and deliciously fragrant as the varieties of this queen of flowers contained under this head or division. They ornament the garden from early summer till yellow autumn. They form the finest standards, and are eminently useful as dwarfs for beds and for pot culture, being more easily excited in forcing than the Moss or any other Roses. Many varieties do admirably as pillar Roses, and to plant against walls. Nearly all of them do better budded on the wild Rose than on their own roots, but the soil must be rich and in good condition to bloom them finely, and insure a rich display of their showy blossoms. In pruning care is requisite to thin the heads and cut in the young wood freely.

As the division is so numerous I cannot resist giving a rather longer list of this desirable class than any other. I may as well mention here that the new varieties for 1857-8 will be given at the end of this paper.

Alexandrine Bachmeteff, rich rose, expanded blooms.

Auguste Mie, pink, large, perfect shape; one of the finest superb varieties.

Baronne Hallez, bright rosy crimson; a superb Rose.

Baronne Prévost, rose colour, immensely large; one of the very best of this class.

Caroline de Sansalles, pale blush, very large; a good show Rose.

Colonel de Rougemont, rose colour, large and fine.

Comte de Nanteuil, deep rose, very large and full.

Duchesse d'Orléans, deep rose, very double, and fine form; a perfect Rose.

Duchess of Sutherland, delicate pink, fine form; very excellent.

Etendard des Amateurs, bright rich crimson; fine.

Géant des Batailles, brilliant crimson scarlet; a well-known, most excellent Rose.

Général Castellane, bright carmine; excellent form.

Général Jacqueminot, most brilliant crimson scarlet; a decided improvement on *Géant des Batailles*.

Gloire de France, rich crimson, excellent shape, robust habit.

Jacques Lafitte, bright rose; very large and showy.

Jules Margottin, bright carmine; very large and excellent.

La Reine, brilliant rose colour; immensely large.

Le Lion des Combats, crimson, large and double; splendid.

Louise Péronnay, bright pink, large and full.

Louis Buonaparte, deep red rose, large and double.

Madame de Cambacères, rose colour, very large, cupped, full, fine form, and robust habit.

Madame de Trottaire, lively cherry colour; fine form.

Madame Guinoisseau, lilac rose, large and double, fine shape; a first-rate Rose.

Madame Laffay, deep rich rose, cupped, and double; a really good old variety.

Madame Rivers, pale flesh, nearly white; most exquisite beauty; neat and novel.

Madame Vidot, light pink, exquisite form; a most elegant and delicate Rose.

Mrs. Elliott, rosy red, distinct and good.

Pæonia, bright carmine, large, cupped, and very double; a showy Rose.

Paul Dupuy, crimson, tinted with violet; fine.

Prince Léon, vivid crimson; a most excellent Rose, perhaps one of the best.

Queen Victoria, pale flesh, tinted with pink; very full.

Robert Burns, vivid carmine, large bloom.

Sir John Franklin, deep rose, large and fine.

Souvenir de Leveson Gower, brilliant rose, large, well shaped, and very double.

Triomphe de Paris, deep rich purplish crimson; habit vigorous; good for exhibition.

Ile de Bourbon Roses.—The original plant of the Bourbon Rose is supposed to have been raised from a China Rose in the above isle, from whence it was imported into Europe, and has been propagated from by seed, thus producing several hundred varieties. Their fine foliage, compact habit, and profusion of bloom render them quite indispensable, especially to the cultivator of Roses in pots for exhibition. Some are very vigorous growers—such should have their branches left at nearly full length; others grow more compactly—these should be pruned in severely.

Acidalie, blush white, large and globular; fine.

Bouquet de Flore, light carmine; an old but very good Rose.

Comte Brobinsky, brilliant crimson scarlet; one of the most beautiful.

Dupetit Thouars, vivid crimson; very splendid.

George Cuvier, rich rosy crimson; distinct and fine.

Madame Angelina, fawn, shaded with salmon; distinct and most beautiful.

Madame Tripet, deep reddish pink, large, and very double.

Miroir de Perfection, bright rose, good form.

Paul Joseph, deep crimson purple; a good autumn Rose.

Queen of the Bourbons, salmon pink, very fragrant; blooms freely.

Réveil, rich velvety crimson, shaded with purple; very excellent.

Souchet, crimson scarlet, large, and truly splendid.

Souvenir de Malmaison, flesh colour; very large and perfect.

Vicomte de Cussy, bright pink, cupped, and double.

China Roses.—This class is well known, and is thought to be raised from *Rosa Indica* and *Rosa semperflorens*. They are useful in pot culture to plant against walls, and to group in masses in the flower garden. Grown in the latter method they require to be protected in winter. The best way is to cover the beds with sawdust, old tan, or ashes; and a few branches of the common Bracken, or short branches of evergreen trees, stuck in the beds will greatly help to protect them. I have known green moss used with the best effect as a shelter both from summer's heat and winter's cold. With respect to pruning, if they are in the open border the best plan is to cut them down nearly to the ground in spring, and afterwards allow them to grow without further cutting. They will make a capital display all the summer. The following is a small selection of the best:—

Archduke Charles, rose, changing to crimson; distinct and large.

Cramoisi Supérieur, crimson scarlet; suitable for bedding.

Eugène Beauharnois, amaranth, large, double, and most superb.

Lady of the Lake, pure white; a good old variety.

Madame Bréon, bright rose, extra large; one of the best.

Mrs. Bosanquet, delicate flesh colour; a charming, well-known variety.

Prince Charles, brilliant crimson; a truly fine Rose.

Triomphe de Gand, deep red, large and double.

Tea Roses.—This class is highly esteemed, and very remarkable for not only the beauty of its flowers, but also for their peculiar and delightful fragrance. They may be planted now, but it would be more advisable to keep them under shelter till April or May. In treatment the method to be pursued is the same as described under the head China Roses. Whoever has a warm

wall in a sheltered situation, with a dry border at its foot, should plant as many of these delightfully scented Roses as he can spare room for. For conservatories, greenhouses, and windows there are no Roses so suitable. I select, as usual, a few of what I consider the cream of the class.

Adam, rose, salmon centre; large and superb.

Barillet Deschamps, pale lemon, shaded; very beautiful.

Caroline, bright pink, cupped, and double; fine.

Canari, splendid bright yellow.

Devoniensis, creamy white; a well-known good Rose.

Elise Sauvage, pale yellow, with buff centre; very beautiful.

Gloire de Dijon, fawn, shaded with salmon; rather new, but no doubt the finest Tea Rose known.

Goubalt, bright rose, shaded; robust and hardy.

Le Pactole, lemon yellow centre, in large clusters; fine.

Mareschal Bugeaud, bright rose, deeper centre; a large and very superb rose.

Madame de St. Joseph, fawn, shaded with rose; large and double.

Nephetos, pure white, lemon centre; very beautiful, especially when just opening.

Saffrano, fawn-coloured, shaded; excellent.

Souvenir d'Elise, white, with blush centre.

Souvenir d'un Ami, deep rose, large, and well formed; excellent.

Vicomtesse des Cases, bright orange yellow, large bloom; one of the best.

Noisette Roses.—This class has a great affinity with the last. Like them their fragrance is abundant, and the blooms beautiful in colour. They produce often immense clusters of flowers, and many varieties with well-formed, large, handsome blooms. Several form fine drooping standards, and others climb to a great height on walls or pillars. The soil should not be too rich, but deep and dry. In pruning attention must be given to the habit. If very vigorous prune slightly; if moderate prune more closely.

Aimée Vibert, pure white, in large clusters.

Augusta, sulphur; a very fine Rose.

Caroline Marniesse, blush white, neat, compact, and very double, producing immense clusters.

Fellenberg, bright carmine, cupped; a very neat Rose.

Jaune Désprés, creamy white, changing to bronzy yellow.

Lamarque, lemon, very large; an excellent Rose to cover a high wall.

Sir Walter Scott, deep purple; suitable for a wall or a pillar.

Solfaterre, bright sulphur, extra large; a truly splendid Rose.

Triomphe de Bolwyller, pure white; excellent climber, and a first-rate Rose. T. Appleby.

THE CHINESE YAM.

Having followed Mr. Beaton's advice in the spring respecting the culture of the new *Chinese Yam*, perhaps your readers may be glad to hear the result of my small experience in the matter.

I procured a dozen of the largest Yams I could, on the average eight inches long, and as thick as one's finger, and planted them in March in the common garden soil, a very good loam, in a slanting position, the small end, which is the top, being about four inches from the surface. They soon made their appearance, with the exception of two that were devoured by the grubs, which seem to like them amazingly, and the haulm (very similar to the common Bindweed) ran up the sticks to the height of six feet and more in the course of the summer.

About three weeks ago I raised an average one out of curiosity, and, to my surprise, found as much difficulty as if I was transplanting a tree, the bottom of the tuber being as nearly as possible three feet from the surface, and as it increases in size downwards it cannot be drawn like a Parsnip or Carrot. The tuber measured twenty-nine inches in length, and weighed 1 lb. 6 ozs.

So far so good; but, as the proof of the pudding is in the eating, I was desirous of trying the quality of my Yam, and accordingly I had it cooked like a Parsnip, and brought to table. It was soon evident that the mode of cooking was wrong, at least if the new Yam is really a palatable tuber, for the consistence was disagreeable. However, remembering that the first fortunate possessor of a half pound of tea boiled it all at once and then ate the leaves, and complained of his hard fate, and knowing that a badly boiled Potato differs *toto cœlo* from one well boiled, I am not discouraged, but appeal to Mr. Beaton, or some one of your valuable correspondents, for a better method of cooking this new tuber.

Its very slight flavour, something between that of a Potato and a Jerusalem Artichoke, seems to warrant me in thinking it likely to become quite a staple vegetable with us, provided it can be rendered floury, or improved in consistence.

It will be found advisable to plant the tubers on the top of a ridge thrown up at least two feet high, for the greater convenience of raising them, otherwise the labour of raising many would be enormous.—H. C. K.

[We are informed that this Chinese Yam should not be boiled more than a few minutes, for if boiled longer it becomes gummy and disagreeable. We should be obliged by some information on this subject, for it is quite as necessary to be known as how to grow the tubers. It will be seen from the following, which we extract from a pamphlet recently published by Mr. Prince, the well-known nurseryman of New York, that the Chinese Yam "requires in boiling about half the time of the common Potato."

"In 1849 it was impossible to obtain a full-grown root at any price, but in the course of two months I received some small weak tubers less in size than a pea. These I planted and cultivated with care, and was greatly amazed to find in the autumn that they had formed roots eighteen to twenty-four inches long, and on cooking them they proved so excellent that the conviction was forced upon my mind that this esculent must prove a most perfect substitute for the Potato. I took measures at once to procure a full supply by importations and otherwise, paying in some cases as high as 700 dollars per bushel. These were all tubers or small pieces of root, as I was unable to purchase a perfect root, although I offered, by advertisements, to give twenty-five dollars each for one hundred. My plantation the past year covered two acres and a half, consisting of 36,000 plants procured at a great expense.

"During the winter of 1855 and 1856 I left a considerable number of the roots in the open ground, when the mercury fell to 10° below zero; and I have allowed two acres, comprising 33,000 roots, to remain out the present winter, during which the mercury has sunk to 15° below zero, an extreme of cold never before experienced on Long Island.

"With regard to hardihood, if the earth becomes frozen to the entire depth of any root within it, that point is tested quite as effectually with the mercury at 10° as 40° below zero. The root in question has been grown successfully in Aberdeenshire, Scotland, lat. 57°, and there exists no plausible reason why it may not be grown at Quebec. Indeed, considering its general character it would seem destined not only to spread over our own country, but over the Canadas, Sweden, Norway, Denmark, Russia, Germany, and all other countries in the temperate zone, producing a complete revolution in their alimentary basis. In the preparation of the ground for planting only decomposed manure should be used, and that should be placed as deep as possible, and but little near the surface, as this vertical root seeks the manure below, the lower end of the root being the enlarged portion, which requires the most nutriment for its full development. Coarse manures should never be used; and such manures as are used must be so applied as not to come in contact with the roots, as they evince the utmost repugnance to any contact with crude manures, and will fail to develope their growth if in proximity with them. This instinctive re-

pugnance of the plant to all filth presents a most peculiar and distinctive character. It can, however, be so easily grown on any loose soil, poor as it may be, that it may be emphatically termed, '*the poor man's Potato.*'

"The flesh is snow white, *not sweet*, delicately farinaceous, being midway in flavour between the finest Mercer Potato and arrow-root. It can be eaten raw, boiled, or roasted, and requires in boiling about half the time of the common Potato. In France excellent bread has been made by adding forty per cent. of it to wheat flour, and the writer has made the richest and most nutritious puddings of it without any admixture.

"The root is of a pale russet colour, oblong, regularly rounded, and club-shaped, and it differs from other vertical roots in being largest at the lower end. Its culture is the most simple. The plants produce small tubers in great abundance; these, or small pieces (eyes) of the root, may be planted as soon as the frost is out in the spring, in drills one foot apart, and then be kept free from weeds during the summer. The crop should not be dug or ploughed out until the last of autumn, as the roots which have penetrated deeply into the earth during the summer make their great increase in size during the cooler autumnal months. When the crop is taken from the ground the roots should be spread, and allowed to dry for a few days, preparatory to storing them for the winter, which may be done by burying them, or placing in cellars.

"The haulm is so nutritious that cattle and horses eat it with avidity. On small, weak tubers, the top growth is but moderate, but when strong pieces of root are planted the shoots run twelve to eighteen feet, and are strong and vigorous, producing great numbers of tubers.

"The Chinese cut off the small neck of the root, to be reserved for planting, making use only of the large part for ordinary consumption.

"Heretofore we have been compelled to plant only the weak and imperfect imported tubers, which were all that could be purchased, and some persons failed of success the past year from this cause, or from obtaining spurious tubers. Fair tubers, or eyes, such as we now possess of American growth, if planted early, will produce roots the first year, weighing from eight to twenty ounces; and pieces of the root measuring one inch and a half in length have produced, the past season, one, two, or three roots from each, weighing in the aggregate from twenty to thirty-two ounces, and in some instances thirty inches in length, but usually eighteen to twenty-five inches.

"Twelve entire roots of only moderate size, which were left in the ground until the second season, formed shoots fifteen to eighteen feet in length, and produced 3,400 tubers, in addition to a mass of roots weighing eighteen pounds. The same root does not continue its growth the second and third years, as has been supposed, but the old roots decay, each giving birth to a number of very large roots, a field of which forms, as the Chinese express it, 'a magazine of food.' The product of a crop, when allowed to remain over to the close of the second season, is estimated by the French Institute at 2000 bushels of sixty pounds each to the acre.

"The expense of culture is less than that of the ordinary Potato, and the expense of digging not exceeding one-fourth the usual cost, as the Chinese Potato can be thrown out with the Carrot or Beet plough so generally used in France on the immense plantations connected with the Beet-sugar manufactories of that nation. It may be successfully grown on any sandy, gravelly, or other permeable soils that are neither very rich nor wet. In China it is cultivated on terraced hill-sides, in localities where little else could be produced."]

A PLEA FOR THE VINCA MINOR VARIEGATA AS AN EDGING PLANT.

This ornamental and compact little plant is not cultivated to the extent for flower-garden purposes it so justly deserves. It makes one of the most beautiful edgings that possibly can be desired. In point of colour and usefulness it is hardly surpassed by the *Golden Chain* Geranium; not that I think it will take the place of the latter for some purposes; that it will for others I am quite certain. It has a much more respectable appearance in September and October, as the *Golden Chain* begins to look somewhat bare at that time, particularly on cold soils.

It is easily propagated in the autumn and spring months, and perfectly hardy—two great points in its recommendation. Many will say, perhaps, "Oh! it is such an old thing." That I will admit, but it is not any the more to be despised for that. For instance, take the *Mentha variegata*, the *Cerastium tomentosum*, and others that I could mention, which were only allowed some out-of-the-way corner to exhibit themselves, but are now used very extensively in all gardens of any pretensions.

The useful remarks recently made by Mr. Robson on the failing of some of our bedding plants, which I am sorry to say are too true, will, I hope, help to bring many of our old favourites into fashion again; and amongst them the *Vinca*, like an old friend, will be hailed with much pleasure.—John Perkins, *Thornham Hall Gardens, Suffolk.*

PEARS.

I have read an account of the Pears shown at the Horticultural Society's Fruit Show, as reported in The Cottage Gardener of the 3rd instant, all of which I grow, and a great many others; but there is one that, in my opinion, surpasses them all. It is *Soldat d'Espérance*, a fine large fruit, nine inches in circumference, and the same round the stalk and the eye. All the late Pears appear to ripen earlier this season than usual. This Pear, which should not be fit for the table until January, is now in full perfection.—Jonathan.

QUERIES AND ANSWERS.

GRAPES IN A COLD GREENHOUSE.

"Will Grapes ripen in a cold or cool greenhouse under a roof glazed with Hartley's patent rough plate glass, three-sixteenths of an inch thick? I have planted *New Dutch Sweetwater* and *Bidwill's Seedling*. As I have my house entirely for the purpose of wintering hardy plants, such as Fuchsias, scarlet Geraniums, and annuals, as soon as these are out in their blooming places there will be nothing left but these Vines. I am not disposed to have fires till I have proved the effect."—R. L. G.

[There can be no question as to Grapes ripening under the roof of such a house. We do not know the *Bidwill Seedling*, and for such a cool house, instead of the *Dutch Sweetwater*, we should have preferred the *Grove End Sweetwater*, and, as all Sweetwaters are rather troublesome to set equally, we should have recommended the *Royal Muscadine* and the *Black Hamburgh*, and for late keeping the *West's St. Peter's*.

You speak of not using fires until you have tried the matter, but if you have no means of heating or protecting your house we could hold out little hope of your saving your Geraniums, &c. The Vines will succeed better without artificial heat. If you use a little heat to keep out frost in winter a little extra heat will be of advantage when your Grapes come into flower, and again in keeping them from damping when ripe.]

WINTER TEMPERATURE OF A STOVE.

"I shall be much obliged by your telling me at what heat a small stove should be kept during the winter months. There are some creepers in it which have been growing freely and flowering all the summer. I conclude that they ought to have rest now, but I wish to keep sufficient heat to have some plants in flower all the winter, and to force others for the greenhouse. Can I rest my plants and have my flowers?"—W. C.

[Such climbers as Passion-flowers, that bloom in summer, may now be cut freely back, and be kept dryish all the winter, which will rest them sufficiently if the temperature is not over 65° with fire heat. All your summer-flowering plants may be treated in somewhat the same way, and should

be placed at the coolest end of the house, the general average temperature ranging from 55° to 65°. The other end may be kept moister and warmer, but each tribe of plants must be treated according to their requirements, and such particular information you will find in previous volumes.]

WHAT CAN BE GROWN IN A VINERY.

"The house is forty-five feet long in two compartments, one to use as an early and one for the general crop. The centre of each is occupied by a pit, under which pass double flues and air draughts under an arched vault. The part nearest the upper path is again covered in, to grow Mushrooms in the darkened sides and force early Asparagus, &c. In the pits I wish to grow in pots Peaches, Nectarines, Plums, and Apricots; but all my gardening friends tell me that such an attempt will fail, as red spider will thereby be introduced, to the certain destruction of the Grapes. Will some of your numerous correspondents favour me with their experience in this matter, and especially as to what purpose I can best employ the pits I have mentioned during the winter season?"—Hamlet.

[So far as we understand your description Mushrooms will do well in the place you mention if the heat is not too dry and is seldom over 60°. From 55° to 58° we consider the best for Mushrooms, though we should prefer 50° to 65°. (See an article in the last volume by Mr. Fish.) Asparagus would also do there if you like it white, or you may cut it a few days before it is used, and set it with the base end resting in water fully in the light to green it. Sea-kale and Rhubarb would do admirably in the same place. There is nothing to prevent you having Peaches and Nectarines in the pit, provided you can give them light enough and you do not force the Vines much, as they do not stand so high a temperature as the Vines. Plums and Apricots you could only succeed with in the cold house, where little artificial heat was given. If you use the syringe pretty freely and sulphur water at times there will be no particular liability to the red spider farther than this—that the greater the number and the variety of plants you have in one place the greater the liability to insects and other evils. The whole matter must also be looked upon as a compromise, as getting as much quantity and variety out of one place as possible, and this rather than extra quality in any one thing. Thus, supposing your pit is supplied with some nice plants in pots or tubs of Peaches and Nectarines, you must not have a high temperature until the fruit of these is securely set. After that what will be good for the Vines will not incommode the Peaches much if they have plenty of light and fresh air. When they colour and begin to ripen abundance of air must also be given, and, to secure flavour, that abundance will very likely check the free swelling of the Grapes. We have had very good, sometimes prize fruit of both under these conditions, but that is not generally to be depended on. For quality it is best to devote one house to one thing. You have an advantage in the two divisions, as you can move plants from one to the other. The pits in winter would do for any kinds of bedding plants and greenhouse plants. Before fire heat was applied they would make excellent preservatories for Lettuces, Cauliflowers, &c. With a little hot dung below them Asparagus roots would do well. A Mushroom bed made in the end of September would bear most of the winter and spring. Potatoes could also be grown in pots and boxes, and moved when the house got too hot for them. Very early Potatoes may be thus procured.]

VINE PRUNING.

"My Vines are two years planted. Last year they reached half way up the roof with a single cane. In November I cut them back to the eaves of the house, and this year they have come strong, and they have almost ripened three canes each up to the wall. In June I stopped the laterals, and every three weeks since I have gone over them and taken off the young spray. In all this have I done right or wrong? Now that the winter pruning season is at hand shall I depend on the first bud at the axil of the large leaf for next year's crop, or shall I leave a spur at each joint with a bud above that upon it? Shall I look for fruit at every joint, or would you prefer disbudding them? They are all very close jointed."—The Clodhopper.

[You were perfectly right in cutting back the Vines in the first year's pruning. Unless you intend each Vine to have three main shoots, or to grow them on the succession-rod system, you were wrong in allowing three shoots for your Vine. If you can only give four or five feet in width for each Vine it would have been better to have concentred its strength into one main shoot, and whatever came below that should have been shortened by nipping out the point when eighteen inches or so in length. If you carefully read previous articles you will find that the longer you allowed the laterals to grow, the stronger, other things being equal, would the wood be. You did right, however, in stopping the laterals, as otherwise you might have strength of wood at the expense of not having mature wood, and the buds pointed and small instead of large and round. So far as we can see you also did right in removing the young spray; but this should have been done by degrees, and not all at once in every three weeks or any other specified time. The whole of the spray and also the laterals should have been removed before you asked your question, that is, by October, as the maturing, rather than the growing processes should then demand most attention. If you had done this you would not have required to ask the question, "Shall I depend on the first buds at the axils of the large leaves for next year's crop, or shall I leave a spur at each joint with a bud above that upon it?" If, as you say, your wood is entirely of this summer's growth you can leave no spur except what would be formed of a mere lateral, and this is seldom done unless in certain circumstances, and these different from what yours seem to be. We would say, then, depend upon the main buds at the base of your large leaves. A more important matter remains. Every thoroughly ripened bud will throw out a fruitful shoot next year, but some very likely may not break at all; and were you to leave a great proportion of your ripened wood, and take what crop you could get from it, it is very likely that that would not ripen kindly, and the Vine would be irreparably injured for the future. If, then, you can give your Vine ten or twelve feet in width, and mean, therefore, to take three main shoots from it, and these afterwards to be spurred, and these shoots now individually to be about as thick as your finger, we would cut them back to within three feet or so of the eaves of the house. If you have only room for one main stem, say four feet or so in width, then we would cut back the two side-shoots to a length of two or three buds, and the middle one to a length of four feet or so; and for the first season, instead of disbudding now, you had better disbud, or rather, remove the extra young shoots, after you decide upon what should be left as future spurs. Five or six bunches would be enough to leave. You might have a score, but you will injure your Vine for future years.]

PLANTING DWARF ROSES.—COCOA-NUT FIBRE FOR ENCOURAGING ROOTING.

"I intend planting a bed of dwarf Roses. At what distance apart should they be planted? I see that Mr. Beaton speaks highly of cocoa refuse as promoting the throwing out of roots in cuttings, &c. What would he think of putting some of it to the roots of trees when planted, say Roses or Apples? I should almost think it would promote the growth of small fibrous roots."—R. P. Turner.

[Plant the dwarf Roses two feet apart if your bed is very rich, or eighteen inches if not so, and as soon as they touch transplant them again and again. Dwarf Roses should not stand long without removing, and by this close planting at first you will soon be reminded of one of the best rules in Rose management, and have a good bed of Roses at once in the bargain. Mr. Beaton uses the cocoa-nut dust to all roots, from his seedling Geraniums to the finest Roses and Conifers, together with Elms and any other trees he may have to transplant, and for mulching to encourage roots to the surface nothing is like it.]

GASTRONEMA CLAVATUM.

"I lately wrote respecting the management of a bulb supposed to be *Gastronema clavatum*, and the number (No. 470) which contains your reply, owing to a mistake, I have only just received. (*See* Vol. XVIII., p. 415.) Since I wrote the bulb has flowered, and does not agree with the description given at p. 478, Vol. IX., of The Cottage Gardener. It is similar to *Zephyranthes Atamasco*. I bought it of Carter, in Holborn. It was labelled *Amaryllis uniflora*, and *Cyrtanthus uniflorus* is in the catalogue as a synonyme. If the party alluded to in Mr. Beaton's article had it of him true to name mine should be true likewise. It was the aforesaid article that induced me to purchase it, and under that name. Whatever it may be I consider myself very far from being repaid for nursing it five years.

"*Cyrtanthus uniflorus* has been in two of Carter's catalogues since I had mine. If it is not the same as stated at p. 477, Vol. IX., it would prevent disappointment to others to make it known."—W. J. Wilson.

[Your present account is so different from the former that we suspect you have meant one kind of bulb, and now speak of the flowers of a very different kind, else how can we reconcile a bulb growing so fast as to split the pot, with the flower like that of *Zephyranthes Atamasco*? There is not such a thing in the world. The flowers of *G. clavatum*, until they are ready to expand, are very like those of *Z. Atamasco*, and also like several Habranthi which flower in the autumn. You said your bulb was green all the year round, but no evergreen bulb yet described has a Habranthus or Zephyranthes flower. All Habranthi rest in summer and grow in winter, but all the Zephyranthes do the reverse, *candida* excepted, which, by the by, is not a true Zephyranth. Neither of them is from the Cape. No African bulb can be likened to your descriptions. There is some mistake. Why did you not show your flower to some botanist near you? There are plenty of them about Hackney. Messrs. Low's people up at Clapton could tell you the very name, and all the names of your bulb if it had any, if they saw the pot and plant with the flower on it. Cut flowers of bulbs might deceive the most experienced, as many come so near each other. Can you give us the size and colour of the bulb; the length, and breadth, and shape of point of the leaves; the height of the flower-scape? Were the flowers in an envelope (spathe)? How many flowers in the umbel? If more than one did they all flower at once or in succession? Did they keep open, or close and open with the sun? Are there any seeds?]

COMPLEMENTARY COLOURS.

"At p. 53, Vol. II., of The Cottage Gardener there is a plan given for finding the complementary colours, which I am about to adopt. Will you favour me with the names of the colours which should be used for the red, blue, and yellow?

"At p. 262, Vol. II., there is another plan, which gives each colour two complementary ones. Are there really two? This plan likewise gives indigo and blue, the other only blue. I should be glad of a hint or two on the subject. I shall probably have a further inquiry to make thereon."—W. J. W.

[Most of what has been written on complementary colours has no practical bearing on flower gardening at all, and the same remark applies to all the rules of the great painters, which go no deeper into *our* colours than that of arranging flowers in a bouquet. The reason for this is that *our colours* must be given or arranged on an ever-varying green, as the ground colour, the green of the leaves, and no two kinds of them are ever of the same tint of green. Just consider, for one moment, a rainbow with the green ribbon taken out of it, and violet, indigo, blue, yellow, orange, and red were given each on a green ribbon, and each ribbon of a different shade of green, and you may see a glimpse of the absurdity of the attempt.]

TO CORRESPONDENTS.

Spiræas in Pots, &c. (*M. F.*).—There will be no difficulty whatever in growing the Spiræas and Berberis in pots. If they remain out of doors the pots had better be plunged to protect them from frost, and so set that there should be a large cavity below the bottom of the pot to secure plenty of drainage. If taken into the greenhouse they will bloom much earlier. Among the many hundreds of Begonias it would be difficult to know your varieties or species. The first we suspect to be *blanda*. When done flowering the flower-stems should be cut down, and strong sucker-like shoots will spring from the base; and from these, either in the shape of rooted divisions or taken off separately and struck, it is easily propagated, requires very moderate watering, and a temperature from 45° to 55° in winter. The second we cannot guess at. The third is the hardiest of the group, *Evansiana* or *bicolor*, and when well grown one of the most beautiful. We have had masses of it four feet in height, and as much in diameter, studded all over with its panicles of bright pink flowers. It is easily propagated by dividing the corm-like roots, and also by tuberous-like corms that grow on the stems. It merely requires to be kept from frost in winter in any out-of-the-way place, but the better the shoots are ripened before they decay, the better will the roots flower the next year. Full directions have been given of its treatment.

Muscat Vine Dying Suddenly (*Muscat*). — It may be owing to the rain, and to the pleasant fact of being so well matured. If the leaves above are yet greenish we should attribute the falling of the leaves to this; but if all have suddenly followed the lower ones, and earlier than others in the same house, then we should examine the stem right down to the roots, and see if it has not been nibbled by a mouse, &c., and if not then examine the roots, and see if there is any appearance of fungus on them, and if so, apply some quicklime over the border.

List of Verbenas (*A Constant Purchaser*).—If you refer to our No. 449 you will find a descriptive list of the best twenty-nine.

Ferns Fading (*Alice Knight*).—Without knowing how they have been treated we cannot give an opinion as to the cause. Perhaps they have not had fresh air daily, perhaps they are dying naturally, perhaps the sea air affects them. All these are possible causes of the fading.

Peas for Sowing in November (*J. Robinson*).—Sow *Sangster's No. 1* and *Champion of England*.

Primula (*G. S.*).—Your specimen was quite dried up.

Apples for Ryde (*Vectis*).—For dessert—*Devonshire Quarrendon, Early Nonpareil, Golden Winter Pearmain, Margille, Cockle Pippin, Braddick's Nonpareil*. For culinary use—*Keswick Codlin, Hawthornden, Bedfordshire Foundling, Blenheim Pippin, Dumelow's Seedling, Yorkshire Greening*.

Names of Pears (*Campbell*).—No. 1. Chaumontelle. 2. Napoléon. 3. Doyenné Gris. 4. Comte de Lamy. 5. Beurré d'Aremberg. 6. Beurré d'Aremberg. 8. Glout Morceau. 9. Nelis d'Hiver. 10. Nelis d'Hiver. 11. Easter Beurré. 14. Moccas.

Boiled Laurel Leaves (*W. C.*).—If they retained any of their prussic acid, which they would if not dry, we think your Bantam was poisoned by them, as they were found in its crop.

Leaf Mould (*Crux*).—The leaves of trees for forming this ought to be kept quite distinct from the leaves of kitchen vegetables.

Giving Air (*Harrie*).—It depends upon the temperature, &c. Buy "Greenhouses for the Many." At p. 47 full directions are given. It will cost you 6d.

Names of Plants (*Wilfrid D. Lee*).—We think your fungus is *Clavaria flava*. (*J. M.*).—No. 1 appears to be the *Lycopodium Helveticum*; No. 2, *Lycopodium cæsium*. The middle of March is late for commencing forcing the Vine even in Cumberland; yet we think a covering of dung and some arrangement for throwing off the excessive rains from the border would be useful to keep the roots from being chilled. Such covering might be taken away at the end of April.

Heating from a House Fire (*H. C. S.*).—As a general rule we object to the pipes ever going lower than the boiler. If your boiler was open it would not do at all. If it had a close lid, and was supplied with a pipe communicating with a cistern above it, then there would be more chance of its answering; but even then the plan is not to be recommended. If the top of your kitchen boiler had been a foot below the level of the floor in the greenhouse there would have been no difficulty. If the drawing room is used in winter it would be easiest to heat from thence. We saw a house so heated the other day.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

November 25th and 26th. Gloucestershire. *Sec.*, Mr. E. Trinder Cirencester.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 8th and 9th. Crewe. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th, and 13th, 1858. Crystal Palace. *Sec.* Mr. W. Houghton. Entries close December 12th.

January 13th and 14th. Dublin. *Secs.*, T. M. Hutton and R. P. Williams, Esqs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

January 19th, 20th, 21st, and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 18th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

APPROACHING POULTRY SHOWS.

Man counts, compares, and progresses in all things in which he is interested. If you were ever waiting impatiently in an anteroom, especially at a dentist's, when you had an appointment for the extraction of a painful double tooth, did you never detect yourself counting the patterns of the paper which decorated the walls? When your tailor no longer succeeds in fitting you, although he uses the pattern he has had to guide him for years; when you fancy that the type of the *Times* is smaller than it used to be, and that you need the assistance of a glass to read it; when the ascent of a hill becomes labour, and your hair becomes thin and grey, you compare yourself with what you were. No one will deny the progress. With the human being it is downward so far as the body is concerned, but not always so with the mind. Although it may require the unabated fire and energy of youth to carry it out, yet often middle age will devise a sounder and more practical scheme than hot youth would have done.

The approach of our great winter shows has suggested these reflections to us. We some time since recorded our opinion of the *Birmingham prize-list*, and the claims its Society has on every amateur and agriculturist of the United Kingdom. We trust within this month we shall have to record that they are not unmindful of them, but testify their acknowledgments by a cordial support.

We have to do now with the *Liverpool prize-list*, and to bring it before such of our readers as might not otherwise know its details and its merits. In doing so we shall have to revert to the manly letter of Mr. Moss, which we had the pleasure of publishing last week; and at the outset we give our full adhesion to that part which states that the prize-list has been drawn up with a view to encourage those classes principally that have hitherto afforded them the greatest support. Counting and comparison have enabled them to do this, and it is just. It is the disregard of these details that makes so many shows unsuccessful. Few places can depend on such national support as Birmingham, and where this is not the case then preference should be shown to those breeds which give the largest number of entries. If three prizes amounting to £8 are year after year awarded to a class that produces but six entries at 10s. each, it stands to reason that it involves an annual loss of £5. The principle appears to us so sound and so fully in accordance with common sense that, being as it is now publicly announced, no one can have a right to complain. It is one of the indications of progress. In our short notice of last week we could not enter much into detail, but we have now to refer to a novelty—the first experiment of a separate class of Dorkings to be judged by colour. It has long been a grievance with those who breed the beautiful birds known as Lord Hill's, that for lack of size they could not hope to compete successfully with others of every shade and hue chosen only for bulk and weight. Many good breeders anxious to exhibit decline to do so from a sense of the utter hopelessness of the attempt, and it is to meet such cases that the Liverpool Committee have formed a class for Silver Greys.

Should the class answer, and should it be continued, we dare predict one thing, namely, that when they come to be put side by side exhibitors will, while they adhere to the colour, try to make success sure by increasing the size of their birds till they are in a position to cope with their rivals in open competition. It is the spur they wanted. They have hitherto sat down, believing the most they could obtain was a third prize or a high commendation, and, depending entirely on beauty of colour, they have sought nothing else.

Another instance of progress is the institution of single cock classes at our large shows. Liverpool offers £5 for the best cock in six separate classes. Second prizes of £1 each are given in addition. In all ninety-three prizes are to be distributed among 400 pens. Every prize of £5 and upwards will be given in plate of the *full value*, and the gentlemen forming the Committee hold themselves personally responsible for the amounts offered. May they be able, say we, to count a large surplus compared with former years, and may we have occasion to congratulate them on their progress.

PREPARING FOR COMPETITION.

The continual queries we receive from all parts on every subject connected with poultry, and the use made of our columns by all those who are interested in the pursuit, not only afford us pleasure, but, seeing that our advice is sought, and, we believe, appreciated, we are induced on all occasions to proffer such counsels as we think may be useful to our readers.

Thus we give warning when the expiration of the time for making entries draws nigh; we call attention to the novelties and arrangements of different prize-lists; and now, when our monster meeting draws nigh, we would offer some crumbs of advice. Before we do so it may not be uninteresting to inform our readers what are the entries of every sort for Birmingham:—Beasts, 136; sheep, 53 pens; pigs, 102 pens; roots, 129; poultry, 1299; pigeons, 194.

An essential point in exhibiting poultry is to send a pen in which all the birds agree. Now, this is seldom the case unless they are accustomed to be together. It is not enough that they should have run in the same yard; they must be tried by being placed in confinement, and if it is discovered that the cock beats one of the hens she must be removed. If the hens quarrel together it will be found that one beats the other two: remove the pugnacious bird. It is useless to remove the *beaten* one, as the mistress will attack the other; but there may be exhibitors so situated that they have not a fourth bird to match. In that case they must accustom the birds by degrees, by putting them together every day, and by gradually increasing the period of their confinement. They must watch them narrowly. If one is still quarrelsome buffet her well with an empty bag every time she attempts to beat her companions. Feed well for the fortnight before the show, but endeavour to make flesh and hard condition rather than fat. Give bread steeped in gravy if you will. We do not believe it necessary, but avoid meat or Indian corn. Ground oats are the best food. A little whole barley for a change and for amusement, but let your principal food be bread and oatmeal. They must have grass, and should run on it, that they may find the natural food with which it teems. To such as keep their fowls in pens where there is no herbage we advise that they get some large sods of growing grass, sufficiently heavy to resist the tug of the fowl, and enable it to break off the blades. They will not only eat all the grass, but a considerable portion of the fresh mould. The remainder they will scatter about the pen. Ultra notions of cleanliness should not cause this to be swept up. It is good and healthy for them, and if it is not wet it will not injure their plumage. Wash the faces of your Spanish fowls and the legs of every breed before they go to the show. Lukewarm water and a sponge are the appliances necessary for the operation. If you keep Polands mind that their drinking vessels are so contrived that the topknots shall not be wetted when the birds drink. Wet feathers are heavy, and, by dint of dragging down several times per day, the shape of the topknot is at last spoiled. Send fowls to the show in round baskets, and canvass is a better top than wickerwork. Let them have none but soft food before they start. Put plenty of *clean* straw in the bottom of the basket. Give yourself ample time to catch your fowls. When it is done in a hurry a tail is very often damaged, if it is not pulled out, and a prize is lost in consequence. If you win rejoice as much as you please; if you lose judge your own birds dispassionately, and make up your mind to deserve success another time.

THE NOTTINGHAM CENTRAL AND LIVERPOOL POULTRY SHOWS.

I have an indistinct recollection that an appeal was made through The Cottage Gardener to the Secretaries of Poultry Exhibitions to fix the period of their shows so as not to come into collision with one another; but how has that appeal been responded to in the case of Liverpool? By setting at naught your advice, and violating the most ordinary rules of prudence. In common with yourself we regret to see that the Liverpool Show is fixed for the same days as the Nottingham. Here is a second edition of the Crystal Palace, and it seems as if both, resting upon their high-

sounding prizes, are determined to do us all the injury they possibly can; but I trust the amateurs throughout the country will be influenced by higher feelings than mere pounds, shillings, and pence, and that they will consider the *honour* of gaining a prize at Nottingham, however small, equal to that of either the Crystal Palace or Liverpool. Your Liverpool correspondent of last week states that the "Liverpool Committee have been occasionally censured when really no cause existed;" but I must confess, when so glaring an injustice to a neighbour Exhibition is committed, it does give some countenance to these complaints. In any case I cannot forbear remarking that the step they have taken towards us merits the strongest reprehension. Our Show has been advertised since the close of the late Exhibition, so that they cannot say they were not aware of it. We carefully avoided, in fixing our days of exhibition, not to come in contact with any; and, presuming that the Liverpool would hold its next meeting upon the same days as it did last year, no other time being notified by them until within these last few days, we thought surely we should not be made again the victims of such disreputable proceedings. The Liverpool held its last Show, as also previous ones, upon the 28th, 29th, and 30th of January. The Crystal Palace announced its Show at an early period of this year for the 9th, 11th, 12th, and 13th of January, and to avoid collision with either of these we fixed the 20th, 21st, and 22nd of January for our own. What, then, could have induced the Liverpool men to alter their period of exhibition, and fix upon the very days we hold ours? It is not only calculated to injure both of us, but the *cause* for which we have to sacrifice so much time and money. However, it is gratifying to us to know that we in neither instance were the offenders, and I hope the press will notice it, and endeavour by their influence to prevent a repetition of such imprudent, and, I may add, shameful conduct.—John Etherington, jun.

[If, as our correspondent says, the Liverpool Show has always been held on the 28th, 29th, and 30th of January, why did the Nottingham Central fix on the 20th, 21st, and 22nd? This was not judicious, for parties intending to exhibit birds at Liverpool would not send them to Nottingham. It is too severe a trial for birds to be penned again in a week, the chief part of that week also to be spent in travelling home and out again. Between the last day of the Crystal Palace Show, 13th of January, and the first day of the Liverpool Show, 28th of the same month, there will be time for the birds to recruit; but the Nottingham Central Committee have chosen to have a Show between, and we fear that the consequence will be that, whilst they damage the other two Shows a little, they will find that those two Shows will damage the Nottingham much more. We think that the latter had better be postponed until the middle of February.—Ed.]

A PROTEST.

Some two or three years ago a quaint and truthful article appeared in one of your numbers (mislaid somehow), headed "Ambition's Ladder." It really was a most correct picture of a somewhat extensive class, and doubtless written by an observant man, and many other contributions bearing the like signature have afforded me no little pleasure. "W. H." must confess that the proportions of his quiet amusement have become quite as large as those of the equine species, and not much less seductive and expensive. The money to be spent in being able to compete with the *big wigs* is now, if at all entered into, a most expensive matter; and, if report speaks true, the *getters up* of these big prizes and entries will be the ones to blame for any failure in a most delightful recreation, pushed on as it has been to almost a gambling eminence. Surely it is not the gentleman that covets the cup or high prize, and surely the cottager and moderate man ought to esteem a fair prize of £2 or £3. The former personage ought not to be encouraged by the allurements of exclusive entries and large prizes to *gamble out* of the market the latter, they being the real and observant breeders with but a few exceptions. It is now become an unblushing feature in many Poultry Shows to deal with the contributors as a set of nincompoops by not only refusing to apportion and pay the prizes, but really passing birds of extraordinary merit without notice in order to cover the iniquity of the claptrap. Depend upon it this stupid and fatal imitation of the late commercial swindles will rot out the poultry *réunions*. They are getting into faulty channels, and unless brought back again to a healthy standard they must crumble. Remember it is the million that pay, and the million will not risk high entries, loss of position, and competition, unless something like good faith be observed.—A. B.

NATIONAL COLUMBARIAN CLUB.

The second Meeting and Show of the season of the above Club took place on Tuesday, the 27th ultimo, at Anderton's Hotel. There was a very good attendance of the members. Mr. Harrison Weir ably filled the chair, and several gentlemen were proposed and seconded for election as members, and will be balloted for at the next Meeting, which will be held on the 24th instant. The grand Show was fixed for the 26th of January, 1858, and will be held during the afternoon of that day at Anderton's Hotel. The show of birds was exceedingly good, and consisted of some very fine Carriers, Almonds, Barbs, Owls, &c. It is hoped that the next Meeting will be larger, and that there will be a still better show of birds. Visitors are admitted to all the Meetings, but must be introduced by a member.—W. W.

OUR LETTER BOX.

Dubbing the Game Cock (*A Constant Reader*).—The original intention in dubbing Game cocks was to leave nothing for the antagonist to lay hold of. The gills being cut all round will lead to the ear-lobe, and this will come off with them, but it requires discretion, and care must be taken to cut off only the outer and pendent part, as otherwise a wound may be formed that will not heal without detriment, as there will be no edges to bring together.

Face of the Spanish Cock.—"1. Ought the white on a Spanish cock's face to have a swollen, pudding-like, or wrinkled appearance, or is it better to be smooth, solid looking, and raised, but not enough to blind the bird? 2. Do you consider the white when swollen so much as to blind the bird a *proof* of *high breeding?* 3. Would you consider a breed having pudding faces the first season and becoming quite blind the second, with great white puddings hanging over the eyes, superior to a strain with smooth, raised, compact faces, and never getting blind, and the white keeping free of a pink tinge?"—R. C. R.

[1. Many of our best old Spanish cocks have such faces as you mention. It is better if it be smooth, solid, and raised. 2. When swollen as much as you describe it is more frequently the effect of age than a proof of high breeding. 3. We should most certainly prefer a breed with smooth compact face; first, because it is at best a negative merit that deprives a bird of his eyesight; next, because in these wrinkled faces the top of the wrinkle or roll is almost always tinged with a red or rose colour. Nothing can compensate for any red in the face of a Spanish fowl; but, if perfectly white and of ample size, a smooth face is preferable to a wrinkled one. Age has, however, much to do with it.]

Bradford Poultry Show (*J. Duckwing*, &c.).—We have inserted a complaint about the award of the first prize for Bantams at this Show, and we can do no more. If neither the Judge nor the Committee choose to reply we cannot possibly give any explanation.

Chinese Geese.—*P. S.* wishes to know where these can be obtained.

Bill of Aylesbury Ducks (*A Keeper*).—It should be a uniform flesh colour. Yellow or blotched bills are always condemned.

Spanish Cockerel with Twisted Bill (*L.*).—We know no method of cure. Trim that part of the beak which deviates from the proper line. This will not make it straight, but it will lessen the appearance of deformity. You must be careful not to cut to the quick or to cause bleeding. A crooked beak will interfere with his success at exhibitions.

LONDON MARKETS.—November 16th.

POULTRY.

Still a good supply and a wretched trade. There seems little probability of any improvement in the latter unless dry, cold weather sets in.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	2s. 0d. to 2s. 3d. each.
Smaller do.	3s. 0d. to 3s. 6d. ,,	Pigeons	10d. to 11d. ,,
Chickens..	1s. 9d. to 2s. 3d. ,,	Rabbits ..	1s. 4d. to 1s. 5d. ,,
Geese	6s. 0d. to 7s. 0d. ,,	Wild ditto	10d. to 11d. ,,
Ducks	2s. 6d. to 3s. 0d. ,,	Pheasants ..	2s. 6d. to 2s. 9d. ,,
Hares.....	2s. 3d. to 2s. 6d. ,,	Partridges ..	1s. 3d. to 1s. 6d. ,,

Turkeys.....6s. to 10s.

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WEEKLY CALENDAR.

D M	D W	NOVEMBER 24—30, 1857.	WEATHER NEAR LONDON IN 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
24	TU	Helenias.	29.802—29.788	56—34	W.	—	36 a. 7	58 a. 3	11 17	☽	13 3	328
25	W	Arbutus.	30.018—29.970	40—28	N.	—	37	57	morn.	9	12 45	329
26	TH	Laurestinus.	29.657—29.550	40—29	N.W.	49	39	56	0 37	10	12 26	330
27	F	Passion Flower.	29.628—29.608	50—24	W.	01	40	55	2 0	11	12 6	331
28	S	Clematis Bœtica.	29.727—29.680	40—19	W.	—	42	55	3 25	12	11 46	332
29	SUN	ADVENT SUNDAY.	29.722—29.694	37—16	W.	—	43	54	4 58	13	11 25	333
30	M	ST. ANDREW.	30.043—29.920	35—14	N.	—	45	53	6 34	14	11 3	334

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 47.2°, and 32.9°, respectively. The greatest heat, 60°, occurred on the 28th, in 1828; and the lowest cold, 16°, on the 29th, in 1846. During the period 96 days were fine, and on 100 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 94.)

[We have received so many applications requesting that the papers which have appeared upon photography in our columns may be published in a collected form that we yield to the pressure, and in about five successive numbers and in large type will carry out, with some additions, our readers' wishes. We use a large type because we are told by Mr. Copland that this will enable the manipulator to read the directions while at work in the subdued light of the operating room.]

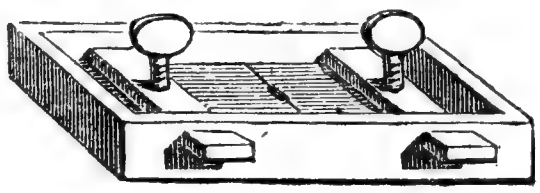
BUT to copy leaves or engravings with distinctness we need a photographic press. We will now describe a simple and efficient one.

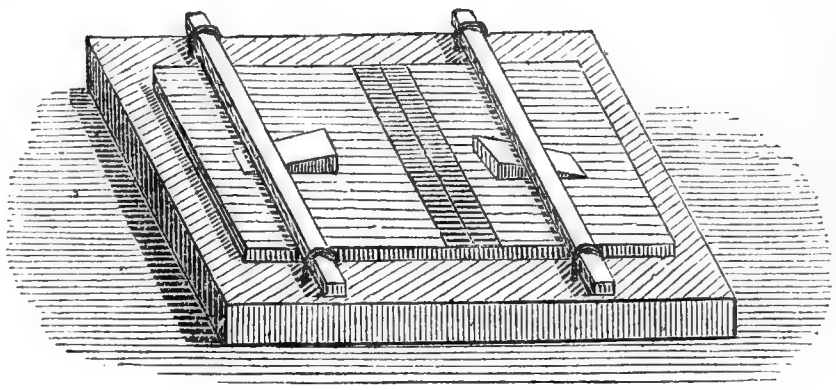
With four pieces of wood, of which the section is annexed, form a strong frame, the rabbet being inwards.

Into this a plate of strong glass is fitted, and a stout board cut for a back a little smaller than the glass. Two staples are driven in each of the opposite sides of the back to receive the ends of moveable cross pieces.

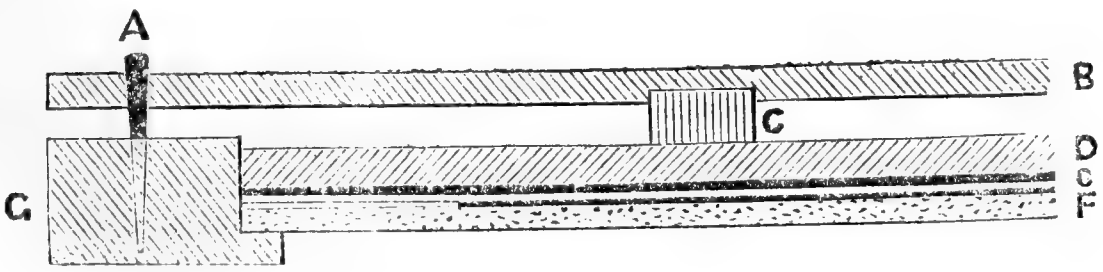
The back is cut in two, and hinged together in the middle with a piece of leather. It is kept in its place against the glass by wedges introduced between it and the cross pieces.

The accompanying drawing shows the back of the frame when put together.





In taking the copy of a leaf we place it on the glass of our frame, and then the photographic paper, with its prepared side next the leaf. Over this a piece of black cloth is laid, then the back. The cross pieces being inserted, the wedges are pushed up until the leaf is pressed firmly against the paper, when the arrangement will be as shown in the accompanying section.



A. Staple.
B. Cross piece.
C. Wedge.
D. Back.
E. Prepared paper.
F. Glass.
G. Section through frame.

The use of the hinged back is that we may inspect the process of printing by withdrawing one of the wedges, taking out a cross piece, and raising the liberated end of the back. The other wedge being tight prevents the shifting of the leaf or paper.

The leaves will be subject to pressure, but not sufficient to cause the juices to exude. The wedges must only be pushed up until the specimen or engraving lies perfectly flat on the prepared paper. It would be well to pare down a thick stalk.

PAPER.

For photographic *printing* we recommend the papers sold as Canson's positive, Turner's positive, Whatman's positive, and Squire's positive. These may be obtained at either of the photographic warehouses.

PREPARATION OF PAPER.

Solutions.	*Cost.*
A.—Forty grains nitrate of silver dissolved in one ounce distilled water. ..	8d.
B.—One ounce hyposulphate of soda in one pint of common water	6d.

Several pieces of paper cut to the intended size are placed in a basin of salt and water, mixed of

such a strength that the taste of the salt is just perceptible.

After ten minutes' immersion they may be pinned up by one corner to dry. The next operation must be performed by candlelight; or, if in the daytime, with a screen of three or four thicknesses of yellow calico over the window. In most photographic manipulations such a precaution is necessary.

A few drops of solution A are poured on a flat sheet of glass placed on a level table, and spread out with the edge of a smaller piece of glass to the size of a sheet of the paper previously salted. Then a sheet having been marked at the corner, to show the prepared side, is lowered on the solution, the marked side being downwards. Here it must remain for eight or ten minutes, and can then be hung up in the dark to dry. The photographic paper thus prepared can be kept in a portfolio till required for the frame, and, if properly shielded from the light, will keep good several days.

The paper is arranged in the frame as described. The face of the frame is then placed in a strong light, and after a little time the exposed parts of the paper will be found to darken. When sufficiently intense the back is taken out, and the paper (on which is the impression of the leaf), soaked *well* in solution B. After this it must be *well* washed in water. When dry this can be coloured to nature, or, by using it in the same way as the leaf, a positive copy (dark on a light ground) may be obtained. The veinings should appear beautifully distinct.

In copying an apple or pear the photograph must be taken from a section through the middle.

In washing the finished photograph it is well to let it soak in several quantities of water. Better still to place it for an hour or two in a dish under a tap of slowly running water.

By varying the strength of the solutions of salt and silver almost any tone is producible. Thus with 10 grs. of salt to each ounce of water, and substituting 80 grs. for 40 grs. in solution A, a deeper black tone is the result.

Photographic printing artists produce their intense black tones with chloride of gold. This chemical is an expensive one. This method of toning is as follows:—

TONING.

	Solutions.		*cost.* s. d.
a.	Distilled water	10 ozs.	2 0
	Sel d'or	10 grains	
	Pure muriatic acid	5 drops	
	Mix		
b.	Common water	1 pint	0 6
	Hyposulphite of soda	4 ozs.	

N.B.—This process to be conducted in the subdued light of the operating room.

On removal from the frame the photograph must be soaked in pure water for an hour. It is then soaked in solution *a*. The print having attained the desired colour should be withdrawn from the bath. It must then be placed in solution *b* for about half an hour. It must then be well washed in pure water to remove all traces of the hyposulphite. This is aided by dabbing with a sponge of clean water on a sheet of glass under a running tap. On the amount of care involved in washing depends the degree of permanency in the finished picture.

(*To be continued.*)

STOKE NEWINGTON CHRYSANTHEMUM SHOW.

About three years since I saw one collection of large Chrysanthemums, another of Pompones, and a third of cut blooms, which were exhibited before the Horticultural Society in Regent Street from Stoke Newington way; and I confess that I was much puzzled about how the cut flowers were so managed as to excel in size, beauty, and even colour all that I had ever seen of the same kinds before them. They were the most beautifully got up flowers I had ever seen; the Dahlias at the Crystal Palace were not better "done." Mr. Appleby is our great authority for all matters about florists' flowers; and he says that it is as lawful to tidy up a flower for a show as to groom a horse to break his own neck in a steeple chase, and so it is. But what about changing a grey mare into a white horse, or an Arabian pony to a sleek donkey, or a puny flower to a first-class certificate condition? They say such changes are not so rare as the accidental changes from the common forms of flowers, for which we cannot account. At all events, the Chrysanthemum season each year since then brought round that puzzle to my recollection, and an itching desire to get at the right understanding of the thing; in short, a kind of "longing" to see a Chrysanthemum Show at Stoke Newington with my own eyes. Well, at the eleventh hour, and on the eleventh year of these exhibitions, the Honorary Secretary for the first time sent me word that the Exhibition would be held on the 17th and 18th of November, ten years' experience having proved to this Society that these flowers are in their prime about the middle of the month in Stoke Newington. I availed myself of the first invitation; and after thanking the Honorary Secretary, the Committee, and all the exhibitors for their cordial reception of an entire stranger, I shall go on to tell what I saw, parts of what I heard, and much of what I learned that day. I was very much amused myself, much gratified, and on the whole I learned more useful knowledge there than was possible for me to pick up at any one Show I have attended for the last five-and-twenty years.

The exhibition room is well suited for the purpose. The large Chrysanthemums and the largest plants in collections of Pompones were staged with admirable skill round three sides of the room, right and left, and straight opposite, as one entered the room. There were three rows of tables down the centre of the room, with ample space to walk between. The middle table was divided down the centre by a green division of calico, as at the Crystal Palace, and on each side of this central table were collections of Pompones, the finest got up that ever were seen; but there were no artificial tricks or dodges about any of the pot plants save the training to sticks or wire, which was entirely kept out of sight. Nothing could be done more straightforwardly or more to

the purpose for the best conservatory in England. The large Chrysanthemums as they were staged here put one in mind of the Roses at late exhibitions. The size of the plants and the training were very much the same as with Roses; the flowers more numerous of course, and the plants more flat at the top than Rose plants. The Pompones were exact representations of exhibition Pelargoniums—all the flowers brought to one flat surface by twist training; but there was one exception, a specimen plant of the second best white Chrysanthemum in England, namely, *Vesta*. This one plant will be just two years old next Christmas; it was twenty-one feet round the edge of the pot, six feet high, and carried very nearly 600 full-blown flowers. In shape and appearance it looked very much like one of those huge bushes of Roses at Chiswick, the mother of that delicate and beautiful race of "Roses in pots." This specimen of *Vesta* was to be sent to the Crystal Palace after the Show. It would not do so well the third year, nor could it be so large from a one-year-old plant; but you may call it more than one plant, as it is made out of the collection of suckers from a spring plant which flowered this time last year. Therefore those country gardeners who can remove the ends or broad sides of their conservatories to get in such a plant as this should think of it now, and select from their present flowering plants.

The second and third tables were covered roof-ridge fashion with cut blooms of large Chrysanthemums and some Pompones of the Anemone class, all in single blooms, as the Dahlias are shown; they were in collections of twenty-four blooms, and twelve and six blooms; each collection in three rows. A Tulip bed must have been a grand sight when that "fancy" was in its prime; but surely it must have been a faint sight as compared with these two tables, for not a single flower at this Exhibition was staged without being dressed with as much care and neatness as a maid of honour would be for a grand dinner party "at the palace;" but the flowers on the pot plants were not interfered with. Thus we had two distinct and different exhibitions, and there were two classes of Judges to decide their merits.

It is a common saying that florists are most jealous of their art of dressing flowers being known; but that is entirely a mistake. There is not a more liberal class of men on the face of the earth as far as the secrets of their craft are concerned; but they are extravagantly jealous of their Judges at Stoke Newington, lest they should be tampered with. Perhaps they lock them up for weeks before an exhibition for aught that we know, as jurors are occasionally secured from a wicked world. At all events, I saw myself some of the best growers and best dressers there, who made not the slightest scruple to teach strangers the secrets of dressing up flowers, and yet rather than that strangers should have access to their Judges they would sooner allow their ears to be changed into purple Chrysanthemums. "It is unbeknown what mischief a knowing cove like that there gent" might do or not do. However, there were no scruples about showing me the proper mode of dressing the Chrysanthemum, so here it is.

The eye or centre of a stiff flower is first extracted, then the petals next the eye are operated upon with a blunt ivory dressing implement, which is on the principle of the sugar tongs if the spoons were cut off; it works among the petals like the bill of a duck, and can hurt none of them. After the eye is extracted the rows of petals round it fall in, or if not they are drawn in with the ivory tongs to form the point of a pyramid. After them every petal in each succeeding row in a flower is drawn up with the tongs so as to fall over the first like tiles on a roof, and when the whole are "up" the back of the petals is only seen, and the flower is all of one tint; and, without knowing the difference, the colours of many of the kinds are quite different from the usual colours, which I must say makes a vast "improvement" on mottled flowers. When I began to examine them I thought there were many new kinds, but after a couple of hours I became so well acquainted with the altered tints that I could tell the newest of them in appearance to be but the best of our old Chrysanthemums; in fact, nature gave the best tints to the back of the petals, and without dressing them up or incurving them we lose most of their beauty. Hence the run for incurved Chrysanthemums.

When a flower is stiff in the neck or has a large eye there is another expedient to incurve it properly. The stalks of all the flowers are put through small wooden funnels, and the small end or leg of the funnel is passed through the hole in the show stand into water glasses to keep the flowers fresh. Now, if you draw the stalk of a stubborn flower a little tighter through the tube, the bottom of the flower presses harder on the sides of the funnel, and that draws up the petals into a cone as cleverly as any mechanical movement in engineering. Therefore, as there is no secret about the matter, and as the same kinds of flowers are exhibited on the plants in their natural forms and colours by the same parties, I do not see any objection at all to this kind of dressing. Just look at the difference between Betty Martin and Sally Marabout in hoops, feathers, tinkling bells, and tassels, and does not the dressing make all the difference in the world? I have no patience with so much cant and hypocrisy against dressing, whilst there is not a man amongst us whose life is worth six months' purchase who does not like to see a lady and a flower in full dress. It is true the Dahlia growers have not yet brought up *their* plants and natural flowers to the exhibitions; but we are coming round that way.

The flowers that are most prized at Stoke Newington for exhibiting on the plants are *Defiance* and *Vesta* for whites; *Annie Salter* and *Pluto* for yellows; *Christine*, *Pilot*, and *Phidias* for blush; *Mount Etna* and *Madame Camerson* for two shades of reddish yellow; and *Albin* is their best purple. These were all the shades in their pot plants, and I think their experience is as good an index to the easiest managed plants as that of the exhibitors of collections of stove and greenhouse plants, therefore a sure guide to begin with.

I took another turn to test their preference for colour, and, beginning with the multiplication table, as the simplest form they had twice two in purple; seven times seven in three shades of blushes as above; five times five in yellow; the same in white, and also in reddish yellow, but more inclined to the lighter tint of *Mount Etna* than to the darker yellows.

The Pompones were all of the older kinds in pots. *Cedo Nulli* was their best white. It is white, and an Anemone flower indoors in pots, but not either out in the borders, where it comes quite up in the centre, and every petal is heavily tipped with purple. I never see it in a pot without feeling sorry for it, as it is the finest of all the light Pompones in free soil. *Bob* and *Brilliant* were the best dark purples, and *Requiqui* the best blue purple or plum colour. *Drin Drin* was the best yellow; but there is a better yellow, and several as good, as I shall show next week. *Sainte Thaïs* was the best chestnut brown. *Durufflet* the best rose or carmine rose, a deeper tint than that of *Surprise* in the open air. *Autumna* the best Spanish brown. *Hélène* the best light rose; and *Model* was the best white, though not a perfect white.

In cut flowers the following were the greatest favourites, as all the collections had more or less of them:—Queen of England, Beauty, Themis, Goliah, Nonpareil, Pluto, Anaxo, Dupont de l'Eure, King, Trilby, Albin, Arigena, Alfred Salter, Hermione, Madame Andry, Pio Nono, Annie Salter, L'Emir, Madame Lebois.

The largest flower was *Themis*, a fine rosy blush.

The only lilac was *Nonpareil, dressed.* *Goliah* is an enormous white. *Beauty* had the broadest petal, a deep blush, and about as large as *Queen of England.* *Albin* was the darkest flower. *Christophe Colomb* and *Pio Nono* the reddest yellow when dressed. *Anaxo* comes next to them, and *L'Emir* looks a tipped yellow when well dressed.

The first prize for large Chrysanthemums, a silver cup, was won by Mr. Argent, who exhibited the monster specimen of *Vesta;* the second by Mr. James.

Single specimens, Mr. James and Mr. Argent.

First prize for a collection of six Pompones, Mr. Holland, from Isleworth, and he took the prize for the largest specimen Pompone—a most magnificent *Bob.* Mr. Wortley, the Honorary Secretary, took the second prize with the best grown plants I ever saw; third, Mr. Scruby; fourth, Mr. Couldry.

For best dressed twenty-four cut blooms.—First, Mr. Wortley, a silver cup. There were two fine new kinds in this lot, *Aristée,* a rich blush, and *Marquis de Molleville,* a pure white. Second, Mr. Bird; third, Mr. James; fourth, Mr. D. Monk; fifth, Mr. Oubridge; sixth, Mr. Elliott.

For best twelve cut blooms.—First, Mr. D. Monk, silver cup; second, Mr. Oubridge; third, Mr. James; fourth, Mr. Wortley; fifth, Mr. Bird; sixth, Mr. J. Monk; seventh, Mr. Elliott; eighth, Mr. Putman; ninth, Mr. Peachey.

For best six cut blooms.—First, Mr. D. Monk; second, Mr. James; third, Mr. Oubridge; fourth, Mr. Bird; fifth, Mr. Wortley; sixth, Mr. Putman; seventh, Mr. Elliott; eighth, Mr. Peachey.

For best six blooms of Anemone Chrysanthemums.—First, Mr. A. Wortley; second, Mr. Bird; third, Mr. James.

Six Anemone Pompones, with an extra prize.—First, Mr. Wortley; second, Mr. James.

For six blooms which never took a prize at Stoke Newington.—First, Mr. Peesgood; second, Mr. Worth; third, Mr. R. Glover.

The Judges for cut blooms were Messrs. Croxford, Shields, and W. Monk; for plants in pots, Messrs. Rendal, Boff, and W. Cutbush. D. Beaton.

PROTECTION OF TENDER VEGETABLES.

During the average of British winters gardeners know full well that it will not do to leave the vegetable garden without protection of some kind; at least, a regular supply cannot be depended on without. When we consider the profusion of good things which are at all times ready during summer to gratify the palate even in ordinary gardens, and then observe the sad havoc that a severe winter makes, it becomes evident that, to stop the gap, almost any amount of pains is desirable. And what a blank, what a miserable affair is a denuded kitchen garden in February and March after a hard winter, when the ice king has been permitted to pursue his devastations unmolested! The blank quarters, the dead and dying remains of vegetables, are grievous memorials of a once exuberant garden; and to these add the lamentations of the cook and the lengthened visage of the gardener. Such are the results to be expected—in some cases close on the heels of Christmas. Besides, what is the expense of a little protection compared with the loss that so frequently accrues from the lack of it? Twenty shillings' worth of straw rightly applied will save five guineas' worth of dainties, ay, and more too. And then what becomes of this straw or litter ultimately? Why it is raked off in spring, and carried to the early hotbeds to protect linings, or, if too much decayed, to the compost yard, where it is worked up in manure. Where, therefore, is the loss?

The crops which most demand our attention are as follow:—Cauliflowers, Lettuces, Celery, Broccoli, Endive, Coleworts, and Artichokes. I will offer a few remarks on each in order.

Cauliflowers sown in June come into use in October, and continue, if protected, until past Christmas. Some preserve them longer still in a half-dried state, hung up or otherwise; but they are not worth cooking—they are mummy Cauliflowers. I do not mean here to propose any expensive or difficult practices, such as the gardeners of the nobility alone can avail themselves of, else it were easy to talk of putting them in Peach houses or vineries at rest, and such-like. These will be off-hand plans and inexpensive, such as may be carried out in gardens of very moderate pretensions. These Cauliflowers are almost sure to be gross in the autumn, and grossness always offers a greater temptation to frost than an opposite condition. My practice is to fall them as Broccoli, or to lay them in by the heels on high and dry ground; the latter I prefer as affording facilities for covering. If fallen where they grow they should be laid with their heads to the south, as, if placed to the north as Broccoli, they are sure to produce a crooked head. A trench being taken out at one end they are cut behind, and dropped nearly flat one after the other. Whether this plan, or the heeling system, is pursued they must be carefully covered with straw or litter during all frosts, being excessively tender when in head; they must also be uncovered on every safe occasion, as confined damp injures them nearly as much as frost. The best time to fall them in this way is at the end of October. One thing may be observed here—that it is well at the commencement of a frost to have them very slightly frozen; they may thus remain covered up for many days without damage, for by this means the confined damp is rendered somewhat harmless, and when a thaw arrives they must be very gradually exposed to the light and air.

Lettuces.—These, if sown in the middle of July, especially for late autumn use, will be in fine head and fresh at the end of October. Of course there is nothing like pits or frames for them; but I am only writing for little gardeners, as before observed, who have to contend with difficulties. These are better laid together on high and dry ground, for it serves, like the Cauliflowers, to check their luxuriance, as when they are in full head they soon burst or become disfigured if they continue to feed. They should be laid together, scarcely touching, with their heads to the south, for the sake of preventing them from drawing crooked, for they are sure to turn to the sun in a short period. If the Lettuces be loose in texture the soil should be pressed tolerably close to their necks, or they may be slightly tied, although tying is apt to bruise them, and thus engender corruption leading to decay. In other respects they require a course of treatment very similar to the Cauliflower; but it may be observed that they are rather more impatient of damp, and all possible means should be taken to keep them dry. As for housing them in sheds or dark places, as some have recommended, I have tried the plan years since, but they soon become so yellow and shrivelled as to be no longer fit for the salad bowl. I have known Lettuces kept very late in the autumn by being planted close to garden walls which had a coping: in such a situation, with a little covering occasionally, they have turned out very fine, and that, too, at as late a period as the beginning of December.

Celery.—This valuable salad has a great enemy to contend with in hard frosts, and these are the more insidious frequently inasmuch as Celery is expected to endure the winter, whereas Lettuce and Cauliflowers do not raise such expectations. One of the most important matters as a prelude is the fixing the soil close to their stems in order to prevent the frost from entering. And

now as to the covering affair. My practice is to let the plants endure a few degrees of frost before covering, say half a dozen degrees. This they will endure very well, and after a day or two's frost the ground will be frozen, and as soon as the crust is half an inch in thickness I cover the beds. I grow all my Celery in five or six feet beds, in what is called the Scotch mode, and these beds are covered all over. Long and loose litter is selected for the purpose, and this is strewed over lightly about four inches in thickness. Thus it remains as long as the frost continues, and on a thaw commencing it is not uncovered until the crust of the bed is thawed, or nearly so, beneath the straw: this is generally two days after the thaw commences. By attending to these maxims Celery is preserved very well until it begins to run in the spring, when, of course, it sinks rapidly in estimation as to the salad bowl, and the last remains are generally worked up by the cook in soups, &c.

Broccolis.—There can be no doubt that the old plan of falling Broccoli with the heads to the north is sound practice; but the pressure of other business frequently puts it out of the ordinary gardener's power to carry it out, although most desirous of doing so, and fully recognising the principle. It is all very well people saying that a trifling amount of labour will suffice for this, that, and the other; but, although such oily prospects look very neat and eligible on paper, they are not so easily carried out by the spade as by the pen. Besides, in the majority of cases the question is, What shall we do, and which set aside? If the labour point is kept at a minimum this is sure to be the case; it is of no use evading the fact, which is notorious to hundreds of practical men. In falling Broccoli the same plan may be pursued as with Cauliflowers, and care must be taken to soil their stems well over up to the collar, or nearly so. But this falling in our northern climates will not alone succeed in insuring their safety; we deem it necessary to use a little long litter over their heads in severe frosts. Just as with the Celery, it is best to let them freeze a little before covering them, and thus handled I have kept them for weeks without any thorough uncovering; indeed, a thin coat of litter suffices in general, and, with a little uncovering of the crown, the mass of the litter may fall through gradually, as spring advances, to the ground.

Endive.—This is a ticklish customer, and I am somewhat surprised, as spring returns, to find it quoted as in the markets so late as April and May; but it must surely be very inferior, for I have seldom seen superior Endive far into January unless coaxed in pits or frames. Dryness is the great consideration with Endive. Of course it will not endure much frost; but it is difficult to keep it dry out of doors. The best plan, perhaps, would be to have a tarpaulin over it; this would exclude rain and snow, and also tend to blanch it by partial darkness at the same time. But this tarpaulin should not touch the Endive; there should be room left for a slight circulation of air overhead, and, moreover, the ends should be closed in very severe weather, and a covering of litter laid over the tarpaulin. In ordinary cases, and where good Endive is not cared for after the month of November is out, careful coverings with long loose litter will do much, and about the middle of November a lot full grown may be tied when dry, and taken to any outhouse or shed, and there heeled in dryish soil, burying it up to the very neck. It must here be observed that all Endive to undergo the above modes of preservation must be full grown at the end of October; those who keep it in pits and frames are not so right in this respect.

Coleworts.—These, perhaps the most useful form of greens that come to the winter table, are generally suffered to remain where planted through the winter, but they frequently undergo great loss. The market gardeners cannot, of course, protect acres; but persons with small gardens can do so, and to those who esteem these delicious affairs I strongly recommend protection. They may be covered, of course, where they grow, and, being planted only a foot or so apart, this can be done with tolerable facility. But, where labour permits it, I strongly recommend what I used to practise, viz., to take them up in the beginning of November, and heel them close together—they are thus more under command; but whether heeled or not they deserve a covering of loose litter in severe weather. The same practice is pursued as with the other tender vegetables, viz., to let them freeze a little before covering up, and to use the same precautions as to a thaw.

Artichokes.—These are not for winter use; it is merely a question of how to preserve vitality until the ensuing spring. Plenty of straw over their crowns and a little extra soil piled around them outside will insure this. Such must be done about the middle of November.

R. Errington.

THINGS TO BE THOUGHT ABOUT.

Heaths and Epacrises.—"I cannot yet find room for these in the greenhouse. Will they be safe a little longer in cold pits?"—Yes, especially the latter. Many keep great quantities of the former quite safely in cold pits all the winter, but the uninitiated could hardly expect to do so. The secret consists in getting the wood well ripened, and the growing brought to a standstill by carefully lessening water before the autumn is finished. The plants then have abundance of air back and front at every possible period all the winter, and are merely *kept*, not grown, for the whole of that period. Let your plants grow until late in the autumn. Leave them in cold pits. Shut such up with heavy coverings in severe weather, and even plenty of air, when the weather is raw and foggy, will not prevent the plants suffering from their worst enemy, *mildew*. As soon as convenient, therefore, remove them to the house, where light will be obtained at all times, and a little fire heat will enable you to change the atmosphere in all weathers. Epacrises do not suffer easily from mildew, but as most of them bloom early a house should be given to them as soon as possible.

Azaleas and Camellias.—"My greenhouse is yet beautiful with climbers, Fuchsias, Begonias, Balsams, &c. Company is expected, and, as you say that Camellias and Azaleas are so hardy, I have placed them under protection from rain, though otherwise exposed, hoping they will take no harm for a few weeks to come."—Plants become constitutionally tender if they are petted and nursed. There are two boys, one a mother's apron-string lad, sheltered from every rough breeze, and all his even unwhispered wants attended to by others. There is another, left with little to depend upon but his own energies and wits. Expose both to a fierce snow-storm, and would you expect both to come out of it scatheless alike? Just so with plants; the more we pet them the weaker becomes their constitution. Be it also ever remembered that plants in pots are very differently circumstanced than when planted out in the free soil. Have you ever obtained for yourself the luxury of next to a glass of iced water in the dog days, by placing the water in a porous earthen vessel, and keeping its outside moist by syphons formed of worsted thread, or wrapping it round with a wet stocking? The same principle is going on continuously. Let the soil in your Camellia pot be somewhat moist, and then your porous pot will also become moist; and then, even if the days and nights are not extra cold, the effects of evaporation and radiation combined may be such as to freeze and destroy the finer, fresher roots at the sides of the pot,

though the temperature may be so high as to show no appearance of frost on exposed, but dry soil in the neighbourhood. When plants are thus left too long exposed, and as a consequence of the roots being injured, the flower-buds afterwards drop and fall; then there are myriads of inquiries appearing in all the gardening periodicals as to the cause of the disappointment. Rest assured that late housing and the consequent soakings and chillings are some of these causes.

Florists' Pelargoniums.—"These were pruned, broke freely, and then placed in smaller pots according to rule; have been well and regularly watered, and yet many of the leaves turn yellow day after day."—Want of plenty of air and too much water are the causes of all this. Give air back and front wherever practicable. Stir the surface soil; do next thing to lock up the water-can for some time, and give no more than will just keep the leaves from flagging, and as much as they can freely perspire. You have clogged them up with juices which they could not get rid of. A toper might as well expect to be vigorous and healthy plunged up to his chin in a wine barrel, and nothing else to depend on. During the whole of the winter months if you err at all let it be on the side of dryness. In dull weather the soil, and even the stems of the plants, will absorb as much as they evaporate and perspire. Houses are better than pits.

Cinerarias for early blooming should not have too large pots; from five to seven inches will generally be large enough. Rich light soil suits them best. Those intended for specimens in spring and summer should not be allowed to be pot bound, but kept growing slowly in a low temperature secure from frost, and in a moist atmosphere.

Calceolarias.—Seedlings and young plants of the large herbaceous kinds may be treated somewhat similarly. It is as well to give them little pot room until the sun gains power, after which they grow very rapidly. Plenty of air, a cool temperature above the freezing point, and a moist atmosphere, with a fair amount of moisture at the roots, are the great essentials for keeping them healthy. When placed in houses light and airy their health will be promoted by standing on damp moss.

Shrubby Calceolarias are still easier managed, and are still hardier as to temperature. Anything like dry heat injures them. If just kept from much frost I have never known the foggiest and dampest weather in winter injure them. At all times they prefer moisture. They bloom freely in the dog days in summer out of doors, and are then in their element, but they will continue to do so *only* if the roots obtain plenty of nourishment, either by repeated waterings or a good surface mulching, which prevents evaporation, and enables the roots to draw moisture from great depths beneath them. Some half a dozen inquiries have been made as to preserving shrubby Calceolaria plants from the flower beds in winter, and a few inquire if they could not be kept in boxes, the same way as scarlet Geraniums taken up. I must say no so far as this, that one element of success with the Geraniums is comparative dryness, and with the Calceolarias a good deal of moisture at the roots and in the atmosphere, thriving in such circumstances, where scarlet Geraniums would rot. If taken up with some earth at least adhering to the roots, pretty well pruned in, and planted in cold pits with brick or turf or earth sides, and covered with glass, or any material that will throw off heavy rains, and that will admit plenty of air and light in fine weather, they will make fine bushes for next year; but in all cases where winter room is scarce I would recommend striking in October, as the young plants will be quite big enough before May, and the beds will be more uniform. I have described the mode adopted in striking them on a north border. The shoots have hardly had a shade since they were inserted, have never yet been watered a second time, and I do not suppose that on an average one in two hundred has missed.

Scarlet Geraniums.—*Brilliant.*—The mode of managing old plants of the scarlet has been detailed by almost every contributor. Several inquiries have been made as to how *Brilliant* would do managed in the same way, and I have not a word to say against it. I have used it rather largely for some time, and can speak of it in the highest terms. We should be glad if Mr. Robson gave it a fair trial next year, and then enumerated it in his useful notes. It does well all round this neighbourhood, making a splendid symmetrical bed, and, so far as my experience goes, nothing equals it for a row in a ribbon border. The most striking peculiarity with me, however, is, that young plants struck in autumn completely throw into the shade the following summer older plants taken up and preserved, both for vigorous growth and continuous, abundant blooming. I believe it is nothing else than a variegated *Tom Thumb;* but, whatever its origin, it is one of the good things for which the flower garden is indebted to the Messrs. Osborne, of Fulham. It does best in a loamy soil, and that moderately rich. If old plants are taken up they will do better in a house in a dryish position than in a cold pit. In the case of all old scarlets taken up to be kept we invariably remove all the leaves, except, perhaps, a few of the size of a sixpence, and all the soft points, leaving only the hardest old part of the skeleton. We smear the cut or broken ends with quicklime, to prevent decay.

Golden Chain Geranium.—A correspondent says, "Is this worth lifting and repotting? It has done little good with me; leaves unhealthy, and at the best of times not larger than a half-crown piece."—It is well worth lifting, even should you not esteem it yourself, for you are sure to meet with admirers of it among your neighbours, and plenty who would be glad to exchange or pay the postage for it. You are rather late, however, with it. We took up what we had here in the second week of October. There is a good deal of the fox and the grapes about this Geranium. Hence some who could not find a good word for the beauty are trying every move to get up a good stock of it. It has done well in several places round here; in fact, better than at Shrublands, where it was first afforded a prominent place in the parterre. We have seen it with leaves this summer little inferior in size to those of *Tom Thumb*, and on plants from twelve to eighteen inches in diameter. The flowers, however, were mostly picked off. Other things being equal, young plants produce the finest leaves. A correspondent complains that he was advised, on the *authority of* The Cottage Gardener, to mix it and the *Brilliant* in a circular bed, but that the *Brilliant* outgrew it completely. We know of no such authority. As well think to make a fair field with good-sized cobs and Shetland ponies regularly intermixed. Whatever he fared on in the islands the Shetlander is generally a rare chap for corn when he can get it. The *Golden Chain* may be kept pure in breed by poverty and starvation, but fine leaves can only come by pretty rich feeding. Let our grumbling friend place *Brilliant* in the centre and *Golden Chain* in a broad band round it, giving the *Chain* something better than either clay, sand, or even hungry heath soil, and I shall be disappointed if he will be dissatisfied with the result. Some time ago I found a number of fine things in a circular bed—the *Chain* among them. The want of arrangement spoiled all, and that, too, I was told, was according to The Cottage Gardener's direction! but I have never hit upon it yet, and have sought for it, too, often and long.

R. Fish.

FLORISTS' FLOWERS.

ROSE CULTURE IN OCTOBER AND NOVEMBER.

(*Continued from page* 103.)

In my last two papers on this so emphatically and deservedly called the "queen of flowers" I endeavoured to describe the general culture of all the classes of Roses, more especially directing my attention to situations for an entirely new rosary and collection. I now purpose to give a few hints on what culture is required in places where the Rose is already pretty largely or very largely grown. The Rose retains its leaves much later than any other deciduous shrub; hence no pruning can be performed nor the ground tilled till the leaves are fallen. This year especially, on account of the mildness of the season so far, the Rose appears to be almost an evergreen. As soon, however, as the leaves fall all dwarf Roses may be partially pruned; that is, strong branches may be shortened in, and small twigs pruned clean off, of all kinds excepting the China and Tea varieties. Dwarfs of these varieties may be severely pruned, with the purpose of protecting them by some kind of covering, such as short litter, fern, or moss. Then, when all are pruned, rake the beds clear of leaves and twigs, and lay on a good covering of well-rotted dung. Let this be carefully forked in, and after that lay on the tender sorts a covering to protect them from the severe frost.

No other care will be necessary till spring. Standards of the tender varieties should have their branches tied round with hay or moss bands. It is really surprising how much this slight covering will preserve the young wood of these tender Roses. Strong growers should be shortened in, and the small spray cut clean out. This half pruning will be of service to prevent the winter winds having so much power over the tops. See that the ties are all sound and the stakes firm. If any of the standards are weak and sickly the best plan to recover them to health is to take them up carefully, remove all the old soil two feet square, and bring fresh good loam, mixed with well-rotted dung, to replace it. Then replant the sickly tree, staking and tying it securely, and give a coat of mulching litter to keep out the frost.

Climbing Roses on pillars and walls should have a regular good pruning. Such as make long, strong shoots should have all the small wood cut away, the long shoots shortened in one-third, and then tie them to the pillars, or nail them in at equal distances on the wall. Varieties such as the Banksian Rose, that bloom on small twigs, require, at this season, pruning very sparingly. If the climbers appear weak and puny in growth take the soil away from the stems, forming, in so doing, a hollow. Fill that hollow with liquid manure, and let it gradually soak into the soil. It will be enriched thereby, and the winter-made roots will quickly gather up fresh nutriment for the trees, which will, in consequence, grow stronger the following year.

The Roses in pots intended for forcing would also be benefited by an application of the same enriching fluid, and should now be moved under shelter; but I purpose very shortly to give a short paper on the culture of Roses in pots, and therefore I will say no more about them just now.

It only remains now to fulfil my promise of giving a selected list of new Roses. I would advise all growers intending to purchase to order such as they intend to buy in at once, excepting the more delicate Tea and China varieties, which had better be left under the nurseryman's care till March, unless the grower has a good pit to place them in through the winter. The season for planting out of doors, the soil, and after management I have already given in my former papers.

NEW VARIETIES OF ROSES.

**Marie de Blois*, bright rose, with very mossy buds; M.

Adelaïde Fontaine, deep pink, extra large; a magnificent Rose; H.P.

**Arthur de Sansalles*, deep rich velvety crimson purple, intensely dark, and well formed; distinct; H.P.

Bacchus (Paul's), crimson scarlet, well cupped; a very fine new Rose; H.P.

**Cardinal Patrizzi*, deep rich velvety crimson, intensely dark; one of the finest new Roses of the season; H.P.

General Simpson, bright carmine; a fine-shaped, good Rose; H.P.

Lord Raglan, crimson scarlet, larger and better shaped than *Géant des Batailles*; H.P.

Louise Magnan, white, tinged with yellow; a beautiful Rose; H.P.

**Madame Knorr*, deep pink, with rosy centre expanded; flower large and double; its buds are peculiarly beautiful; H.P.

Madame Masson, deep crimson purple, large and full; very fine; H.P.

**Madame Phelip*, deep flesh colour, large, and very double; fine form; a delicious, lovely flower; H.P.

**Mademoiselle Leroy*, delicate rose, large, reflexed, and double; very beautiful; H.P.

Prince Imperial, dark shaded rose, deeper in the centre; immense size and good quality; H.P.

Toujours Fleuri, rosy crimson, shaded with violet, large and full; very fine variety, but of a rather delicate habit; H.P.

Impératrice Eugénie, rosy blush, with deeper colour in the centre; a superb Rose; B.

Louise de Savoie, lemon yellow, large and double; superb; T.

Mélanie Oger, yellowish white, with deeper centre; very large and double; T.

Mélanie Willermosz, white, with salmon centre; good; T.

**Madame Schulz*, canary centre, shaded with carmine, fragrant, and very double; extra; N.

Miss Gray (Paul's), yellow; very excellent; N.

Triomphe des Rennes, yellow canary, very double, and a most superior variety.

All good, but those marked with an asterisk are the best.

Abbreviations.—*M.* Moss. *H.P.* Hybrid Perpetual. *B.* Bourbon. *T.* Tea-scented. *N.* Noisette.

T. Appleby.

PLANTING AND PRUNING FRUIT TREES.

I am about to transplant some *Apple trees* from a deep, stiff, rather damp soil to a newly-made garden; soil, a good mellow loam, about eighteen inches deep, resting on a thin bed, say about three inches, of marly clay, which again rests on sand. I have cut my garden walks through the clay, and filled up with stones, so as to form a drain. They are dwarf trees on Paradise stocks, but rather overgrown, being ten to twelve feet high, and, from my having been from home in summer, have missed the proper pruning.

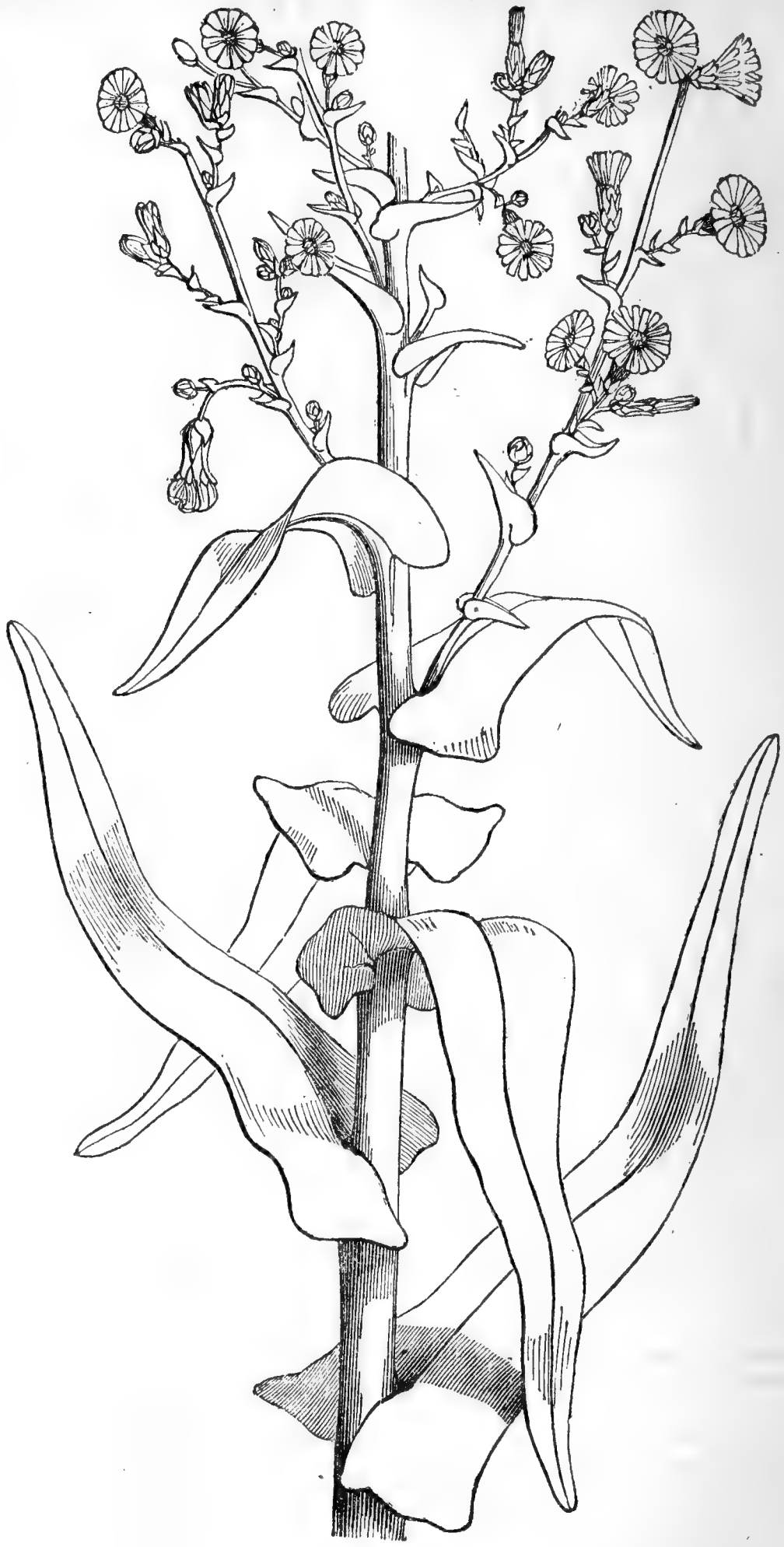
I propose planting over a flagstone about a yard square. How deep should this be under the surface? [About two feet.]

Should the clay be excavated, and broken stones filled in, so as to form a drain under the tree? [Yes.]

Should I cut back and thin the branches to the size I wish the trees to be? and should that be done *at the time* of transplanting, or before or after it? and when should I transplant? [Prune after transplanting, and transplant any time between now and next March.]

I have a *Black Hamburgh Vine*, which, being an *old friend*, I wish to transplant. It has been growing in the open border on the front of a house for ten years. Will it bear transplanting? [Yes, well.]—An Amateur.

HOO-SUNG, OR OO-SUNG.



This is a Lettuce-like plant from Shanghae, seeds of which were sent from thence in a letter by Mr. Fortune, and received at the Garden, January 9th, 1845.

It is possibly the *Youngia dentata* of De Candolle, or *Prenanthes dentata* of Thunberg.

Stems cylindrical, two to three feet high, erect, light green, with a green succulent pith, which is the part used. Leaves denticulate, or slightly serrated; the lowest oblong and tapering to the base, the uppermost stem-clasping, somewhat lanceolate, and taper pointed without being acute. The flowers are small, yellow, in panicles slightly drooping. The plant is tolerably hardy, and may be cultivated in the manner of Lettuces. Mr. Fortune recommends it to be planted "in rows thinly, say one foot and a half between each plant. It is fit for use when the stem has grown to its full size, which is early in the spring at Shanghai." He also states that it is a vegetable much esteemed by the Chinese, and refers to the following

"*Mode of Dressing the Hoo-Sung.*—Pare off the outer skin, cut off the leaves, and take the stalk; either simply boil it with salt and eat it with pepper, or stew it with a few spoonsful of soup, or with a little soy, salt, and pepper. The last is the preferable way of dressing this vegetable."

It would probably form a good preserve, similar to that made of the stems of Lettuces when running up and before they become hollow.—(*Horticultural Society's Journal.*)

BEE'S WAX, AND THAT FROM IRISH PEAT.

Every one knows that bees store up honey in cells of wax, but except the curious none inquire how they get the wax to make their combs. The fact of there being no visible signs of bees taking wax into the hive led our best writers to think that they secrete wax, which oozes out through the pockets or segments in their abdomens. This is beyond a doubt, for when bees cluster to make combs some of them may be seen with pocketsful of wax in the shape of small scales, some of which often fall on the floor of the hive. We noticed this some years back, and also may have said that bees eject wax from their mouths when making cells in strong colonies without clustering. We state this with confidence, but not so that bees collect wax from plants, and that it is refined in their bodies by a process beyond our power to explain. Mr. Taylor called our attention to this some years ago, and we said in our previous paper on Propolis that bees may collect materials for secretion of wax from plants. During summer they may be seen on the young shoots and under sides of the leaves of common Laurel, which may contain vegetable wax. We state this in order to call the attention of others to this hidden process in the history bees.

That certain plants contain wax is beyond doubt—it is extracted from them in America as an article of commerce; but we cannot point out the difference between that and bee's wax. There may be some analogy between the oil in animals to repel water, and wax in vegetables for the same purpose.

Though out of place, we may mention that, perhaps, mildew first begins to grow upon wax, or bloom on leaves and fruit, for we never observed that pest on bunches of Grapes, or rather berries, which had lost their bloom, either before or after maturity. But this is a gardener's affair, and we have to state that when bees eject wax from their mouths there seem to be no scales of it on their bodies as already noticed, but if there were any their size must prevent them from being drawn or sucked inwards to be afterwards deposited. Therefore we may conclude that bees have the power either to eject wax from their mouths or through the segments in their abdomens.

Since the above was written we have seen very fine candles made of wax extracted from Irish bog peat. Perhaps the wax was in the trees and plants, and did not lose its property when they decayed and were converted into peat. As peat is the first stage of coal formation it may be curious to ascertain if the wax is lost or dissolved by the heat and great pressure which convert peat into coal. If not, there may be also wax in coal, although it is mixed with other resinous substances which make it inflammable, and the quantity of wax must vary in proportion to that existing in the trees and vegetable substances before they were converted into coal. Irish bogs may contain the remains of

more oak than our coal formations: in these there are the decayed remains of many Fir or Pine trees, in which there was plenty of resin, and perhaps wax. If we mistake not, the glossy substance on the leaves of the Scotch Fir is wax, which may be seen in dotted rows with a common microscope.—J. Wighton.

A NOTICE OF THE TEIN-CHING OR CHINESE INDIGO.

By Mr. R. Fortune.

When in the north of China my attention was directed to a plant largely cultivated by the inhabitants for the sake of its blue dye. In the southern provinces a considerable quantity of indigo (Indigofera) is cultivated and manufactured, besides a large portion which is annually imported from Manilla and the Straits. In the north, however, the plant which we call Indigo is never met with, owing, I suppose, to the coldness of the winters, but its place is supplied by this *Isatis indigotica*, or the *Tein-ching*, as it is called by the Chinese.

I met with it in the Nanking cotton district, a few miles west from Shanghae, where it is considered a plant of great importance, and covers a large tract of country. It is grown in rows a few inches apart, and at a distance looks like a field of young Turnip or Cabbage plants. In June, 1844, when I was in that country, the plants were from six inches to a foot in height, and being considered in perfection the natives were busily employed in cutting them and removing them to the manufactory. One of these places which I inspected was close on the banks of the canal, and was placed there for the convenience of the farmers, who brought their leaves in boats from the surrounding country, as well as to be near the water, a large quantity of which was requisite in the manufacture. It consisted of a number of round tanks, which are built for the purpose of steeping the leaves. The leaves are thrown into the tanks and covered with water, and, after remaining for a certain length of time, the juice is drawn off into other tanks, where I believe it is mixed with lime. The colour of the liquid at first is a kind of greenish blue, but after being well stirred up and exposed to the air it becomes much darker and very like the well-known indigo of commerce. I suppose it is thickened afterwards by evaporation in some way, but that part of the process did not come under my observation.

I am very much inclined to believe that this is the dye used to colour the green teas which are manufactured in the north of China for the English and American markets. This, however, is only conjecture.

The plant has a half-shrubby stem covered with a fine bloom. Its root-leaves are oval-lanceolate, on long stalks, sharp pointed, slightly toothed, and somewhat fleshy. Those on the upper part of the stem, near the flowers, are linear. The stem is decumbent, a foot and a half long, and divided at its extremity into several drooping racemes about six inches long; on its sides it bears here and there small clusters of leaves like those of the root. Flowers very small, yellow. Silicles black, quite smooth, six lines long by two wide in the broadest part, oblong, obtuse at each end, a little contracted below the middle, with a thin edge and a single median line.

It seems to be a new species of Isatis, perfectly distinct from all previously discovered. It belongs to the Glastum division, or true Woads, among which its dwarf, half-shrubby habit and acute, lanceolate, long-stalked leaves are conspicuous. I propose to call it *Isatis indigotica*, and to distinguish it by the following technical character:—*Isatis (Glastum) indigotica;* suffruticosa, foliis radicalibus glaucis ovali-lanceolatis latitudine ter longioribus obsoletè dentatis, caulinis linearibus siliculis linearibus glabris stigmate sessili coronatis medio paululum constrictis et basi angustioribus.—(*Horticultural Society's Journal.*)

Extraordinary Produce of an Apricot Tree in Guernsey.—An Apricot tree belonging to Mrs. Aller, of Hauteville, has for many years past given a produce which would be incredible if the fact were not notorious. In the year 1855 this tree yielded no less than 16,000 Apricots, and this year the produce has been at least 10,000 full-sized and perfectly ripened Apricots. The tree, which is, we believe, upwards of forty years old, measures 20 feet in height, and has a span of 60 feet, thus covering a surface of 1,200 feet.

NOTES FOR DECEMBER.

Kitchen Garden.—As the weather is likely to be favourable a sowing of *Peas* and *Beans* may be made on a border, or on any dry, well-sheltered ground. All vacant pieces of ground should now be manured, *trenched*, and left in ridges to be pulverised by frosts and thaws. The strong crops of *Celery* to be earthed up to the top in dry weather, and the others according to their growth. Trenches dug out now will receive benefit by the admission of frost during the winter, and may be planted in the spring with *Cauliflowers*, and dwarf *Peas* or *Lettuce* between the rows, which will be off by the time the trenches are wanted for Celery. It is an old, but a good practice to take up the *Broccoli* that are now growing luxuriantly, and to lay them in by the heels, covering the stems nearly up to the heads with the soil in the open ground in rows close to each other, and with their heads turned to the north. By the check they receive in removal, and the position in which they are placed, they are more certain to escape the damaging effects of frost than if they were left to grow in luxuriance where they are more susceptible of injury from unfavourable weather. If through any mishap *Cauliflower* plants are scarce it would be advisable to sow now in a box, to be placed in a gentle heat, and when the plants are of sufficient size to be pricked out in a frame on a slight hotbed. On the first appearance of severe frost it is advisable to get some *Turnips* under cover, to be laid in sand when the tops are cut off. Earth to be drawn to the stems of *Brussels Sprouts* and *Cabbages* of different sorts, and the dead leaves removed, as sometimes after frosts they injure the plants by causing them to rot. Advantage to be taken of every favourable day for the admission of air to the *Lettuce* and *Cauliflower plants* in frames or under hand-lights, as they are more liable to suffer from a confined, damp atmosphere than even from slight degrees of frost; therefore the more air they get the more hardy they grow, and the less they will suffer when shut down during severe frosts or heavy falls of snow. Provide for a successional supply of *Sea-kale*, *Asparagus*, and *Rhubarb*, in whatever way forcing is practised, as recommended last month. Finish dressing the outdoor beds.

As all the choice sorts of *Pears* and *Apples* are not keeping well this season it is necessary to examine them frequently, that they may be used while fit for table. Any that do not appear to ripen properly may be improved by removal to a dry warm room for a few days before using. Although the cause of fruit not keeping well this season is attributed by some great authority to the attacks of a species of fungus, we would, nevertheless, be bold to surmise that the cause may be more properly attributed to the remarkably fine season we have had, when fruit was never known to be so well flavoured, with a superabundance of saccharine matter to excite early fermentation and premature decay.

The planting and nailing of *fruit trees* should be attended to without further delay, and no favourable opportunity of fine weather should be neglected to expedite such work, which will give to the walls and grounds a much neater appearance, and will afford more time for the multifarious operations of the spring. If any old Apple or Pear trees are unproductive, or only productive of an indifferent or bad quality of fruit, and it is intended to graft better sorts on them in March, it is advisable to cut them back now in preference to the spring, when the sap is in circulation, and should the decay of a portion of the limbs or canker ensue, the cut portions to be covered with a little paint to protect them from frosts. The bark of trees infested with scale to be well scraped and painted with a composition of soft soap, cowdung, and lime, and well worked into the crevices of the bark. Lime or soot, lightly worked into the soil between the rows of Gooseberries, Currants, and Raspberries, will be both useful as a manure and a preventive of the attacks and increase of grubs and insects. It is often recommended to get the ground between rows of fruit trees dug, that it may look clean and fresh, which is generally a most injurious practice, destroying the roots upon which the health and vigour of the tree mainly depend for subsistence, and never should be resorted to unless to check over-luxuriance by a careful system of root pruning.

Flower Garden.—As the weather is still very favourable for outdoor operations, any improvements or alterations in the flower garden may be carried on. If any of the luxuriant branches of the more common sorts of shrubs are interfering with the growth of the more choice kinds they should be cut off for the free admission of light and air. A selection of handsome, well-grown specimens is preferable to a miscellaneous collection of shrubs, that are too frequently huddled together and left to nature, when the weak, however more valuable as ornamental and beautiful, are overgrown and ultimately destroyed by the more strong and coarse-growing sorts. As leaves form an excellent compost for beds, borders, or pot plants, they should now be collected into holes in any out-of-the-way place, and covered with soil. There are very few small places where sufficient attention is given to the collection of materials for manure. The prunings of trees, the withered stems of herbaceous plants, and the dead leaves of kitchen-garden vegetables, road scrapings, old mortar, large weeds, and any other vegetable refuse, if sprinkled with quicklime during the formation of the heap, will materially assist the process of decomposition.

Greenhouse.—To counteract the injurious effects from cold, damp, foggy weather it is necessary to apply a little fire heat to the greenhouse during the day, when a little fresh air can be admitted to carry off superfluous moisture without lowering the temperature to an injurious degree, as there are certain limits even at this season, when a dormant state is aimed at, beyond which the constitution of tender plants will not bear it without injury; therefore the admission of raw, cold air or high night temperature should be avoided, and a regular temperature of about 40° maintained by day fires occasionally, and by external coverings at night, where practicable, to exclude frosts. The Chrysanthemums while in bloom may be supplied occasionally with a little weak liquid manure in a clear state, and when done blooming to be removed out of doors, the stems cut down, and the pots packed away on the north side of a wall, and covered with long litter during severe frosts. Camellias in bloom will require a regular supply of tepid water to be given liberally when they are almost thoroughly dry, and a regular temperature with air at all favourable opportunities. The Heliotropes, scarlet Geraniums, Persian Cyclamens, Cinerarias, and Chinese Primroses, with other such plants grown especially for bloom at this season, will also require careful attention that they do not suffer from want of water; and as the green fly is apt to infest soft-wooded plants, and to do them serious damage at this season, it should be destroyed as soon as possible by fumigation. Some few Hyacinths and other such bulbous plants should now be brought forward for early blooming.

Advantage to be taken of mild dry days to give air freely to the pits and frames. Where the inmates are half hardy air may be admitted until the temperature descends to the freezing point, as they are more seriously injured by damp and mildew when closely confined than even by a slight frost when dry. If a severe frost sets in it is sometimes necessary to cover them up with mats, straw coverings, or with litter, for several days, and when the thaw takes place to be cautious that the admission of light is gradual, as the sudden exposure after confinement to the glare of sunlight will produce frequently very unpleasant results. The sides and ends of the pits and frames to be well banked up, to prevent the admission of severe frosts.—William Keane.

AMATEUR CHRYSANTHEMUM SOCIETY, KINGSLAND ROAD, BETHNAL GREEN.

This new Society held its first Meeting on the 16th and 17th instant, in a marquee in the York Garden, Kingsland Road. The members are all amateurs who have never exhibited before, and they have been advised and encouraged by that celebrated gardener at the Temple Gardens, the father, grandfather, and godfather of all the city Chrysanthemums, and "our own correspondent," Mr. Broome; and between one thing and another, such as the Gas Company giving light gratis, some giving canvass for roofing, some boards and tables for setting up the collections, and two wealthy brewers close by lots of *empty* casks to set the planks on for long tables,

and such kindly helps, they managed to make a most respectable appearance at the first starting—much better than ever we did with that tribe in Regent Street. I only heard of this move on my way home from Stoke Newington, but I took the liberty of calling in "promiscuously," and I got in gratis. They did not ask my name, for which I was most thankful, as it was getting late; but go where you like about the suburbs of London, if the natives you meet are fond of flowers they are sure to be "perfect gentlemen" in politeness.

Mr. Holland's collection of Pompones, which shone at Stoke Newington, was first exhibited here the day before, and left just as many plants and pots here as were found at Stoke Newington, but only about one-tenth part of the number of cut flowers.

Some one or two collections of Pompones here were better grown than I ever saw among the gardeners. There was not a single stick in them, the plants had five, six, or seven inches of clear clean stems above the pots, and no suckers, with spreading tops of from eighteen to twenty-four inches through, stiff, erect, and in one mass of bloom. The kinds differed very little from those at Stoke Newington, but there were some newer kinds here. Next week I shall sum up all this and a whole day at Mr. Salter's Versailles Nursery.

D. Beaton.

FRUITS OF EUGENIA UGNI AND FUCHSIA CORYMBIFLORA.

As the fruit of *Eugenia Ugni* has attained a somewhat important feature from the fact of a prize being offered for it at the late Horticultural Show in London, it may be as well here to explain to the inexperienced what this fruit really is. As a new dessert fruit is a matter in which every one must feel an interest, and every one not being in possession of the tree, or, perhaps, not knowing what it is like, it may be well here to describe it.

The *Eugenia Ugni* is a small-leaved evergreen shrub, apparently of slow growth, its foliage somewhat like the common Box tree, but I believe not very hardy. The fruit, of which so much was expected, is anything but handsome, being, in fact, as like the common Haw as anything else, and, though larger than the commonest of all, is not so large as those of the fancy kinds of that commonest of all fruit; but in colour and largeness of eye it very much resembles the Haw. Now, a fruit with no great pretensions to appearance ought to have some good qualifications to entitle it to a place at table, and I am far from denying this its due in that respect, for its flavour is to my taste far from disagreeable; on the contrary, if the fruit was larger I think it might become a favourite. There is a sort of richness about it which I have not found in anything else, that on the whole I like it better than some fruits that are occasionally sent to table, as the Passion fruit, Plantain, &c.; but its diminutive size and appearance are a defect not easily got over, that it is likely most people will feel dissatisfied with it after seeing it once. As a plant, however, it is worthy of attention, and it would seem to be well fitted to cover a low wall, it being on a situation of that kind that I have it growing, facing the south, the few berries there were being ripe the middle of September.

In its present condition the fruit of *Eugenia Ugni* is certainly inferior in point of appearance to that of several of the Fuchsias, and the latter are, I believe, equally wholesome and agreeable, the best bearing one being *Fuchsia corymbiflora*, which, if cultivated for its fruit, might be made both a useful and ornamental object, and its juicy berries of a dark plum colour might find themselves many friends. *F. fulgens* is equally fruitful, but the fruit is less showy, being a yellowish green; but these fruits are certainly as much entitled to attention as that of Eugenia, and possibly may get it when the failure of the other becomes patent.

J. Robson.

NOTES FROM THE CONTINENT.—No. 14.

SAXON SWITZERLAND.

About eighteen miles south-east of Dresden commences a tract of country of no great size, being only about eighteen miles square, but exceedingly attractive to the traveller. It is known under the name of Saxon Switzerland, and for interest is only inferior to its original namesake. It was until the last few years comparatively unvisited, and its beauties unknown; but now the steamboats plying on the Elbe, which passes through the centre of this tract, the railroad which follows for some distance the left bank of the river, and the opening of numerous roads and paths through it, have rendered its access easy, and during summer it now has very many visitors. It possesses all the elements of the beautiful, the grand, and the simply picturesque. There is the frowning precipice and the almost inaccessible and giddy height; the roaring waterfall and the murmuring brook; the rocky gorge, and the ravine so narrow that the light of day hardly penetrates it; the echoing cavern and towering pinnacles of rock, slender and fragile-looking as the minarets of a Turkish mosque; overhanging masses of stone, which look as though a child's hand might send them toppling into the wooded glen beneath; and several natural archways, one with a span of more than eighty feet. Amid such scenes the landscape gardener can learn more practical lessons in a day than from theoretical studies for months. The soil is a rich fibrous peat. I have never seen the beauty of wild flowers to such an advantage as there. The Ferns, though only of the common British species, looked very beautiful growing from the crevices of the rock and overhanging the numerous streams; and the student of Mosses might find employment here for a whole summer. Sometimes in a narrow ravine we came upon a saw-mill and a few cottages. Very picturesque they looked half built into the wall of rock. The few inhabitants of this district are all Catholics, and here and there a simple wooden cross was seen, or a rudely sculptured figure of a saint, at whose feet lay an offering of flowers. Every wild and romantic spot here has its tale. Where modern history has failed to invest it with interest tradition has stepped in, and thrown an unspeakable charm over all. When war swept over the surrounding country the poor villagers here found a secure retreat, and the signs of their occupation are seen to this day far up among the heights.

Upon the border of this romantic district, and just before it assumes so wild a character, the vineyards of the king of Saxony are situated. They are very extensive, giving employment to twenty families, and occupy the steep southern slope of a hill. From the very obliging and hospitable head gardener I learned the mode of cultivation adopted here. With a few slight exceptions it is the same as that followed in all the Saxon vineyards, and is as follows:—The ground was first trenched two feet deep, throwing the turf which covered it into the bottom of the trench; then in February and March cuttings were taken about eighteen inches long, and planted so deep that only two eyes were visible. They were placed in rows three feet apart, and from two feet to two feet and a half in the row. A short stick was placed against each when they were planted, and nothing further was done the first year than to keep them tied to this, and the ground well stirred between them. In autumn they were shortened back, laid upon the ground, and a little soil drawn over to protect them from the severity of the cold. This is necessarily done every winter. The second year they had longer stakes given them, and produced a little fruit. The following spring they were pruned back, leaving four or five buds, and produced a heavy crop. There is no thinning either of bunches or of shoots practised here, and they are only shortened when they become too long for their stakes, which are about seven feet high, and one to each plant. The ground is dug or forked over every winter, and every alternate winter a little dung is given them. The plants usually require renewing every eight or

nine years, and this is generally done by layering. They never receive any water even in the hottest summer. There are several sorts planted here, but they are of little use except for wine making. The mildew never did any injury to this vineyard, as it only appeared late in the autumn, and then only in a mild form, although its effects were severely felt in the neighbourhood.—Karl.

NEW AND RARE PLANTS.

Pandanus candelabrum (*Lustre Screw Pine*).

Native of the west coast of Africa. A specimen is at the Crystal Palace. "Of the leaves of *P. odoratissima*, growing in the islands of Mauritius and Bourbon, the bags in which sugar is exported are all made, and when they have served for that purpose they are sold to the London fishmongers, and are familiar to every person who buys a piece of fish in the market as the receptacle for carrying home the purchase for his dinner."—(*Botanical Magazine*, *t.* 5014.)

Sabbatia campestris (*Prairie Sabbatia*).

A fragrant, bitter annual, native of Arkansas and the Red River, New Orleans and Texas, where it was found by Mr. Nuttall and Mr. James Drummond. It was first imported by Mr. W. Thompson, of Ipswich. Flowers deep lilac, with a yellow eye. "Planted out in the early summer it produces copiously its ornamental flowers."—(*Ibid.*, *t.* 5015.)

Dillenia speciosa (*Showy Dillenia*).

This beautiful Magnolia-like tree inhabits the woods of all tropical Asia. Its apple-like, but very acid fruit makes a tolerably pleasant jelly, and its hard tough wood is used for gun stocks. It has large white flowers, which opened last August for the first time in Europe under the care of Mr. Osborne, of the Fulham Nursery.—(*Ibid.*, *t.* 5016.)

Salvia candelabrum (*Lustre Sage*).

A native of Mexico, but "of all the 400 species described by Bentham" none have more striking flowers than those of this species marbled with rich purple and white. It is a hardy under-shrub plant, flowering in July. Introduced by Mr. Thompson, of Ipswich.—(*Ibid.*, *t.* 5017.)

Codonopsis rotundifolia, *var.* grandiflora (*Large-flowered, round-leaved Codonopsis*).

Native of the Himalaya. Flowered at Kew in July, 1857. The original species, *C. rotundifolia*, is figured and described in the *Botanical Magazine*, *t.* 4942.—(*Ibid.*, *t.* 5018.)

THE STEWARTON HIVE.

I have read a communication signed "Robt. Eaglesham" in your publication of the 10th inst., on which I may be permitted to make a remark. When Mr. E. says that "the directions for management of the Stewarton boxes were drawn up in ignorance of the small size of southern hives," and that, in consequence, the former have "not received a fair trial," the inference to be drawn is, that on his theory the larger the hive the greater is the amount of honey that may be expected. Now, all experience contradicts this hypothesis, whether it be in Scotland or England. It may be very well to say of Neighbour's, or any other storifying hive, that it is working "on fancy principles without regard to quantity;" but allow me to tell Mr. Eaglesham that it is beyond his power to induce the family to store more honey in one hive than another, circumstances of locality and season being the same; nor will its *quality* be in any way affected by the form or dimensions of the dwelling. It is quite true that one hive or box may be better contrived for convenience and economy than another; but that is the affair of the proprietor, and not of the bees, who will store their collection into any shaped vessel in just the quantity that nature and opportunity have put before them. I quite agree with your correspondent that *population* must be duly considered, and if Mr. E. thinks that two swarms joined together will give a better account of his hives than one I agree with him, only that this may be done with *any other kind* of hive of sufficient capacity. It is the number of workmen, and not their dwelling, "that produces the greatest quantity in the least time."

This doubled population may do wonders the first year, but I suspect the proprietor would find the advantage of what are called the "puny skeps" of the south in subsequent seasons. This is precisely the rock on which poor Nutt was wrecked. I only know the Stewarton hive by description, and have no wish to undervalue real ingenious improvement; but this I know, that he must be a clever apiarian who can make a bee put a single ounce extra of honey into it unless he has a mind.

To the novice in bee-keeping I would again repeat the words of Mr. Robert Golding, which have been recently quoted in The Cottage Gardener. "Let my readers," says he, "repel the quackery which would have them believe that it was the *kind of hive* that commanded the honeyed store. No, that will be ruled by the season and locality, and these vary greatly."—T.

THE CORK TREE.

In answer to a correspondent who signs himself "Suber," in the last number of The Cottage Gardener, you say, "It is unusual for the Cork tree to bear acorns in this climate, but many plants have been induced to flower for the first time in this country by the late glorious summer." There are, at this place of my father's, two Cork trees, one of considerable size, the circumference of its stem at four feet from the ground being eight feet nine inches. This year both it and its companion are covered with fine acorns, a specimen of which I send you, which has not been the case for seven or eight years past. The acorns of this year considerably exceed in size those of former years. We have some young trees standing at the height of twelve feet, which were raised from seed about eighteen years ago, and others about four or five feet high, which were raised from seed eight years ago. The Cork acorn is, unfortunately, not of much value in England, since the trees thrive in so few soils. We have given many acorns and young plants away in this and other neighbourhoods, with the hope of making so beautiful a tree more common than it at present is, but I am sorry to say that in very few instances have they succeeded. I must tell you that the soil in which our trees grow is a fine rich yellow loam. We have found acorns on our trees in *large* quantities three times within the last twenty years, but a *few* have been found every three or four years. At such times we have to look sharply after them, for squirrels and jays are very partial to them.

In a short time I hope to be enabled to take a photograph of the largest tree. I think it deserving of this, for I *believe* it to be one of the largest in this part of England; at any rate, it is very beautiful. Perhaps you would like to have a photograph. I will with pleasure send you one if you would. —Quercus Suber.

[We shall be much obliged.—Ed. C. G.]

CHINESE YAM.

Let "H. C. K." try the following receipt for cooking his Chinese Yam. It is the best for the West Indian Yam, and may render the Chinese one more palatable.

Place the Yam in cold water, and boil till it is tender; then peel off the skin, and put it into the oven till it is baked a nice brown. When going to serve cut it open, and, pressing the inside gently, butter it quite hot.—J. M.

NATIVE PLANTS.

In the number of The Cottage Gardener for August 4th, 1857, page 281, I have just read an account of some rare British plants growing in Yorkshire on the banks of the Don. I am aware that the *Tulipa sylvestris* grows there; also the *Ornithogalum luteum*, or *Gagea lutea*, and many others that are great favourites with botanists; but when

the *Cypripedium calceolus* and the *Crocuses* are stated to grow there I must confess my surprise, as I have collected plants in the neighbourhood of the Don sixteen years, but never found the *Cypripedium*, which is one of the most beautiful and interesting of our British Orchidaceæ.

I am almost inclined to think the *Colchicum autumnale* has been mistaken for the beautiful Lady's Slipper, as an abundance of the Colchicum grows in many parts of Yorkshire on the limestone land. I shall take it as a great favour if your correspondent would inform me, through The Cottage Gardener, the exact locality where this is to be found. After cultivating this in pots I should like to see it in its native home.—W. G., *Huddersfield.*

QUERIES AND ANSWERS.

SUPPORTING FLOWERS.—CERASUS JAPONICA.

"Referring to a note by 'An Observer,' in your issue of the 27th of October, on the subject of supporting flowers, I have been in the habit, for several years back, of using galvanised wire in much the same way as he proposes. I bought a quantity about the thickness of whip cord, quite strong enough for ordinary herbaceous plants, as Phloxes, &c., and, provided with a pair of cutting as well as holding pliers and a bundle of sticks, I went round each plant, cut off on the spot what was needed to encircle it, then placed three or four sticks in round about. With the pliers I bend the wire at each end into a hook, and, passing it round, hook the ends into each other; then with a bit of mat or string tie the wire to one or more of the sticks to prevent it slipping down. When the plant is cut down the wire is unhooked and laid away till wanted.

"The advantage of this over a ring, as proposed by 'Observer,' is, that thinner wire may be used, consequently it is cheaper; that you can more readily adapt it to the circumference of the plant; and, finally, that you are not obliged to pass it over the head of the plant at the risk of breaking the young tips: you may at once pass it round any part you desire, and hook it.

"I have a *Cerasus Japonica flore-pleno* in a cool greenhouse: how should I treat it? I presume when it drops its leaves I ought to stow it away anywhere under the stage like a Fuchsia, and merely keep it damp. Am I right?

"Can you recommend a climber for the front of my greenhouse, a small one, lat. 56° north, the climber to be trained along the sashbars? One with pendent flowers like the Rhodochiton I want. Most plants so trained turn their faces to the sun, and so make no show in the house."—G. A.

[Your mode of training is very good. Your *Cerasus* will bloom in March with the protection of a greenhouse. A *Passion-flower* would be as interesting a climber as any, because when established all you would have to do would be to cut it well in every winter, and the long shoots dangling from it would bloom all next summer. Write again if this does not suit.]

TEMPERATURE OF GREENHOUSE.—RED SPIDER.—FRUIT TREES IN POTS.

"Having a greenhouse in which Grape Vines have been planted some years, and just come into bearing, I am anxious to encourage them by proper treatment so far as possible, but being an amateur, and wishing in the same house to grow plants under the Vines, I fear the heat, hot-water pipes being used, may be too great for the Vines, and shall feel obliged if you will advise me at what height I may safely keep my thermometer without fear of injury to my Vines.

"My plants are chiefly of the hard-wooded varieties, as Camellias, Azaleas, and such-like, which will soon be in fine bloom if I may venture upon keeping my house at about 50° of heat. I may add that my Vines are planted in outside borders, and that I cannot turn them out, or that would overcome my difficulty.

"I am also a disciple of Mr. Rivers in the orchard-house culture of fruits in pots, and have succeeded very well, and doubt not that, as my trees gain age, they will bear more bountifully, though my crop this year has been good. The greatest obstacles I find to this most interesting method of culture are that old pest, the red spider, and the extreme luxuriance of the growth of the trees. As regards the former, in spite of the free use of the syringe my trees were this summer much affected, and I shall be glad if you will advise whether they should be brushed over with soft soap and sulphur mixed with water, and when; and, as regards the latter, if you think Mr. Rivers's principle of allowing the roots free emission through the bottom of the pots into the border is good, or whether this does not increase the excessive luxuriance of growth of which I complain, and how this rank growth may be best avoided."—A Lover of Gardening.

[If you have an average temperature of 50° at night you will be apt to start your Vines. From 40° to 45° the Vines will not start much before their usual time; 45° at night, with a rise of from 5° to 10° in sunshine, will suit most greenhouse winter-flowering plants. If you desire higher than that, and cannot take the Vines out, you might have double sashes in winter in front, and place the Vines between them, where they might remain until the buds broke. Washing your trees with thin glue or size water would have helped you, but no means of cure equals prevention. If you have hot water brush the pipes frequently with flowers of sulphur in water. If no means of heating put the sulphur on the lid of a saucepan, with water near the boiling point under it, and use water for syringing in which sulphur has been mixed. Do not use much soft soap in painting, but wash all your trees thoroughly now with soap and water with a sponge or brush, and when dry paint all over with a paint of clay mixed up with a portion of sulphur; but clay paint is just as good as anything, and it is safe. The rooting of the trees in the border will increase their luxuriance. If yours are too strong you can easily prevent this source of luxuriance, and less feeding will do the rest.]

WINTERING CINERARIA SEEDLINGS.

"Will you tell me how I am to keep seedling Cinerarias through the winter, not having a greenhouse?"—J. V. G.

[Place them in your window in saucers, and put some damp moss in the saucers, or rather, place the pots in a small Mignonette box, with their little saucers beneath them, and fill the box with moss, the surface of which, if kept moist, will help to neutralise the drying effects of the fire in the room. The temperature in which they will thrive best will be from 38° at night to 45° and 50° during the day. The least frost will injure them, and so will a dry heat. Sponge and damp the leaves in very sunny days, which will help to keep them clean, and if a green fly appears wash it off, or smoke the plants with some shag tobacco. If you can put them all in a close box a mere pinch will do. See articles on Window Gardening.]

SLATING A VINE BORDER.

"I have built a vinery containing *choice* Vines, the border on a considerable elevation facing the south. Would it be beneficial to cover the border, like the roof of a house, with slates about the thickness of pasteboard?"—E. M.

[If your border is well drained, and slopes considerably, and the soil is not very adhesive, and you do not contemplate forcing early, we see no absolute necessity for slating your border. If the border holds too much water, or you contemplate forcing early, then covering the border with litter, and slating it over to keep it dry, will be a great advantage. In fact, in our opinion all Vine borders would be better if protected from the melted snows and the deluging rains of winter, and this your slating would accomplish. As, however, putting them on so as to throw off water would be apt to leave hollows beneath them, your border, as explained some time ago, will not be so warm in summer as if it were exposed at that time. We presume, however, you merely mean slating in the winter and spring months, and there is, therefore, no necessity for speaking

of the effects in summer; and where comparative dryness at these periods can be obtained it is desirable, whatever the means employed.]

LILY OF THE VALLEY CULTURE.

"Having a bed of Lily of the Valley not taken up now for four or five years, when it flowered last season the leaves would not allow the flowers to open as they ought. I shall be obliged by proper directions for replanting the roots, and by being told if they should be separated when taken up; also which is the best time to replant the roots. I wish to know if Lily of the Valley will look well if planted in a belt a foot wide round a bed of Roses or shrubs. Will Lily of the Valley flower in boxes the same as Mignonette is generally sown in?"—M. F.

[If your bed is extremely thick the crowding you allude to will happen. If you take it all up and divide the roots separately you will not have many flowers for a year or two. Could you manage to take up six or nine-inch spaces, and leave nine or twelve, those left would be little injured, and would have more room to bloom. If you take up all, and wish bloom next year, you must not separate the roots much, but plant in little patches from six to nine inches apart. In forming a new plantation, and roots are an object, they may be distributed over the ground about three inches apart. This may be done any time during the winter, but the end of February and the beginning or middle of March are the best times, as their growth commences immediately. This plant is rather capricious as to likes and dislikes so far as locality is concerned, growing freely in almost any kind of soil in some places, and refusing to grow freely in any compost at another place. You seem to have no difficulty as to the growing. Good light loam seems, on the whole, to suit it best, pretty well enriched with rotten leaf mould. Proceed thus with your new plantation if the roots are to be made the most of:—See that there will be no stagnant moisture; dig and trench, and pulverise well, and add fresh loam and leaf mould if necessary. Dig again freely in March; remove from two to three inches of the surface; place the plants all over two or three inches apart; sprinkle with sand and fine leaf mould; water the whole gently; replace surface soil, and cover with an inch of half-rotten leaves.

The belting Rose beds and shrubberies with this general favourite is purely a matter of taste. We do not think it would harmonise with Roses. It would be more in character among shrubs. We have never seen the flowers finer than in rather thin woods, where the roots had made themselves at home. The roots will thrive in boxes as well as in pots, but if you want a mass of bloom you must select the plants with bold firm buds, and pack them thickly. By nibbling the buds between the thumb and finger you will soon learn to discern those that have flowers in them. If you could slightly force these boxes you would have flowers all the sooner. We know a lady that gets them moderately early merely by moving the boxes to the vicinity of the kitchen fire at night.]

RIPENING THE WOOD OF BRUGMANSIA KNIGHTII.

"My plant of *Brugmansia Knightii*, about which you gave me very lengthened and good directions, is still growing and showing flower-buds, but all of them drop off. This loss I do not regret, but I wish to know how I can ripen the young wood. It is in a cold pit with Heliotropes and other plants. I suppose the cuttings will root freely in the spring."—M. F.

[You will not have heat enough in the cold pit to open the flowers. For ripening you had better remove all the larger leaves, and let the plant get almost dry, and as much sun as possible. When you prune back the plant in spring every bit will strike; but after the fresh shoots break a thinning of them, when three inches long, will strike quickest if you can give them a hotbed.

STRAWBERRY BEDS.

"My strawberry beds are now in fruit and flower. Of the former I gathered some a few days ago, ripe and highly flavoured, from the productive Hautbois and other sorts not Alpine. I wish to know whether it will be desirable to cut off the stems of fruit and flowers in order to secure a crop at the proper season next year."—L. F. L.

[You can do neither good nor harm by cutting off *now* all the fruit and flowers you find on the beds, or by letting them take their chance. If you had thought on the subject six weeks since you might have spared your plants considerably by cutting off the old leaves, all the runners, and every blossom and fruit you could find, then to fork in between the rows a sufficient quantity of rotten dung to carry the next crop. We cut Pelargoniums, roots and branches, to renew their strength and power, and we yearly transplant our Phloxes, Chrysanthemums, and other fibrous-rooted herbaceous plants for the same practical reasons. We cut their roots to increase their sucking powers sixfold, and we give them fresh soil or dung or compost to feed on "near home." Why, then, *taboo* the Strawberry from the benefits of practical gardening to please such people as do not seem to appreciate the value of a right application of their own theory?]

PROPAGATING THE GLADIOLUS.

"How is it that the Gladiolus is not grown for sale in this country, but that we are indebted to Holland for the importation of this splendid bulb? Two years ago I planted two dozen *Gandavensis* in a bed, leaving them in the ground with a protection of loose leaves; they have flowered magnificently, and have been the admiration of all who have seen them. This autumn I have taken them up, and have found the stock increased to eighty-four very large bulbs, besides numerous small ones. They appear to reach this country from Holland in September: how do they get ripened so early? The bulbs sent, I presume, are this year's growth."—R.

[Free trade is at the root of it all; they can grow these "roots" on the Continent cheaper, and we go to the cheapest market. There are kinds of Gladiolus abroad that are never ready for the English market before November. The Emperor of the French is the first grower of Gladioluses in the world, and his gardener, M. Chuzet, at Fontainebleau, the most successful hybridiser of them on the Continent or anywhere else. There is not an individual who can approach him in this race. Did you never hear how Queen Victoria was enchanted with Chuzet's Gladioli all over the shrubberies—merely cut flowers put in for the occasion?]

PHLOXES.—POMPONE CHRYSANTHEMUMS.

"Will *Phlox omniflora compacta* stand the winter in the open air unprotected? What is the best mode of propagating it—by cuttings in the spring or by dividing the roots?

"Is *Phlox Canadensis*, pale blue, a good colour for a bedding plant, and lasting? *Phlox procumbens* is also blue. Which is the best blue, this or *P. Canadensis?*

"At your convenience I should be obliged for a list of the best Pompone Chrysanthemums, well quilled, of the following colours—yellow, orange, bronze, purple, pink, scarlet, or the nearest approach to that colour."—Verax.

[*Phlox omniflora* and all its varieties, with all other Phloxes except the breed of *Phlox Drummondi*, are quite hardy, and while they are young plants they are best propagated by spring cuttings; but when they come of age divide them in March. They all do best in free, sandy, *fresh* soil, and should have fresh quarters every second year at least.

Phlox Canadensis makes a nice variety, but is not a good colour for a striking effect in a bed. *Phlox procumbens* ditto.

Where did you hear of quilled Pompones? You might just as well ask for a bottle of Barland perry in London. We have examined 760 kinds of Chrysanthemums without finding a single quilled flower, or a double either, or

a true bronze, or a clear scarlet. True bronze is made of green and purple; but here is a splendid assortment for you.

Yellow, General Canrobert.

Orange, Francis I.

Bronze, La Pactole, dark bronze. La Promise, lilac bronze and sweet-scented. Alexandre Pèle, reddish bronze.

Purple, Requiqui.

Pink, Trophée.

Scarlet, Brilliant and Scarlet Gem, both very *atro-sanguineum*.

TO CORRESPONDENTS.

DECAYED TREE (*A. B.*).—Remove as much of the decayed part as you can, and then fill the hollow with a mixture of equal parts clay and cowdung, made of the consistency of mortar with the drainings from a stable. Smooth the outer surface of the plaster and sprinkle over it some quicklime. When dry paint it over with tar, which will exclude wet.

PREVENTING CHEESE MITES (*A Constant Reader*).—A cheese painted over with melted suet, so as to form a thin coat over the outside, never has mites we are informed.

ORCHIDS (*S. S.*).—If fresh specimens packed in damp moss and in a tin box are sent they will be named, although it is very difficult to name some without seeing the plants.

ROOTED CUTTINGS (*A Subscriber*).—Cuttings of bedding-out plants well rooted cannot have too much light and air in mild weather.

ONWARDS POTATOES (*J. Steward and others*).—We regret that we have none to part with. Not one of them has decayed, so we have resolved to plant our whole stock; indeed, we have begun doing so.

CELERY DECAYING (*An Old Reader*). — The splendid summer and the mild autumn have done the mischief. We have seen much Celery just in the state of decay it often has when a mild spring occurs after a hard winter. Taking it up, trimming off the decayed parts, and burying it in sand, leaving the leaves uncovered, would preserve it a long time.

GOLDEN STONECROP.—"Finding there are many of your correspondents who wish to have the Golden Stonecrop, but cannot get it, as it is scarce, I will try to furnish a few with it; but you are right when you say it is not so gay during summer: it then grows very fast, and is green. It is now coming tipped, and will soon take on its golden colour. I will engage to supply a few hundred applicants with sufficient to make a plant with a little care should it escape the post-office punches. The Stonecrop shall be sent in a piece of damped paper, on receipt of a properly addressed prepaid envelope to 'R. S.,' Post Office, Staincliffe, Batley. The first come first served until my stock is done, if so many apply. I am wishful to have a collection of Aquilegias. Can any one who applies for the Stonecrop oblige me by sending half a dozen seeds or a small plant of any of the more rare kinds, or of *A. glandulosa*, true to name, as I have been twice disappointed with it?"—RUSTIC ROBIN.

VICTORIA REGIA IN THE OPEN AIR.—"You state, in a paragraph relating to the *Victoria regia* grown here (Weeks and Co., Chelsea) in the open heated pond, that it was protected by *an awning*. We beg to say that the covering was quite removed by May, and the plant fully exposed during the remainder of the summer and autumn. The Victoria flourished amazingly, *ripening a quantity of seeds*, from which we raised a number of plants. The fifty-ninth flower was shown at the Regent Street Rooms, Nov. 4th, 1851, and the plant continued flowering till the 22nd of the same month, producing altogether sixty-seven flowers. A gold medal was awarded for its successful culture by the London Horticultural Society."—J. R.

HORTICULTURAL SOCIETY (*The Cottage Gardener's Friend*).—Write for information to the Secretary of the Society, 21, Regent Street, London. We cannot venture to give information on the subject without a voucher for its accuracy.

GARDEN PLAN (*An Old Subscriber*).—Hundreds of times have we declared that we cannot advise upon the planting and arrangement of gardens unseen. All that we can do is to tell what plants proposed to be associated will or will not agree. After the trouble you have taken we say this regretfully; but we should probably mislead you and injure ourselves by venturing to *guess* at what would be judicious and pleasing for your garden.

YUCCA BLOOMS (*W. H. Pigeon*).—The frost will destroy them. You cannot preserve them much longer, but a tripod of poles covered with *frigi domo* will protect them as well as anything.

FRIGI DOMO (*W. H. S., Sheffield*).—Alone, without extra covering during severe frosts, it would not protect Geraniums, &c.; with proper care it would. We have more than once given full directions for propagating pits and frames. Refer to back volumes.

MUSHROOM BED (*Amateur*).—You may make now a bed as directed by Mr. Errington in our No. 472. Your dark loft will be a very good place, but you must have a mild temperature.

BLACK TRIPOLI GRAPE (*J. S. L.*).—It is not so hardy as the *Black Hamburgh*, and, indeed, requires a stove. It is prolific, bunches middle size, and berries very small. Flesh rich, high-flavoured, tender, and juicy. It is not so black as the *Black Damascus*, and ripens a month earlier than that variety in the same temperature. Mr. Thompson, one of our best authorities, says, "I presume that no gentleman will be disappointed if he plants one of this kind even in a small collection." It was grown by Speechley in 1789.

NAMES OF FRUIT (*T. B. G.*).—No. 1 Pear, *Swan's Egg*. 2. *Doyenne Blanc*. APPLES.—No. 2. *Nelson Codlin*. 3. *Emperor Alexander*. 4. *Beauty of Kent*. 6. *Russet Sable Pearmain*. 7. *Cockle Pippin*. 8. *Devonshire Buckland*. 9. *Reinette de Canada*. 11. *Bess Pool*. 13. *Pomme de Neige*. 14. *Hambledon Deuxans*.

FRUIT TREES FOR THE NORTH OF SCOTLAND (*Scotus*).—We would recommend you to observe what varieties of the best fruits succeed best in your neighbourhood, and grow them. Few of the more recent introductions have, we imagine, been proved so far north; but perhaps Lord Aberdeen's gardener, who is, we understand, an Englishman, or has at least had considerable experience in the south, will be able to assist you better than we can. However, in PEARS you might try *Red Doyenne, Thompson's, Marie Louise, Beurre Diel, Louise Bonne of Jersey, Seckle, Althorpe Crasanne*, and *Eyewood*. In APPLES *Devonshire Quarrendon, Autumn Pearmain, Golden Winter Pearmain, Kerry Pippin, Margille, Court of Wick, Fearn's Pippin, Golden Reinette, Ribston Pippin*, and *Braddick's Nonpareil*. But why do you give up all your wall and espaliers to Apples, and leave the Pears to open dwarfs and standards?

VARIOUS (*G.*).—Mr. Rivers's Grape is a variety with a Muscat flavour. Rain water will not corrode iron pipes. The best climbers for the back of your greenhouse very hot in summer are *Solanum jasminoides, Rhyncospermum jasminoides*, and *Clematis Sieboldii*. We do not know Mr. Coles' Calceolarias. We cannot devote the space you suggest. Those who wish for exchanges must advertise.

ICE STACKS (*A Reader*).—Buy our 114th number. It contains full directions for making them.

LATE GOOSEBERRIES (*W.*).—*Roaring Lion*, a red; *Warrington*, red; *White Lion* and *Gregory's Perfection*, green, are all late ripeners, and if grown on a north wall and protected will keep a long time.

NAMES OF PLANTS (*M. G.*).—Your *Salvia* is the *Salvia involucrata*, a very pretty one, but like *S. fulgens, Cammertonii, Gesneræfolia*, and many others, it is a large grower; but such plants can be lifted with care out of the borders in the autumn into large pots, so as to be had in flower half the winter in the conservatory. The *Periwinkles*, both the variegated and green, are very suitable plants for edgings, or beds in secluded or shaded situations, where many other things will not flourish at all. (*An Old Subscriber*).—Your Cape of Good Hope Gooseberry is *Physalis edulis*, or Eatable Winter Cherry. Your other plant is *Veronica Andersonii*. (*A Constant Subscriber*).—Your Fern is *Adiantum cuneatum*, or Brazilian Maidenhair.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

NOVEMBER 25th and 26th. GLOUCESTERSHIRE. *Sec.*, Mr. E. Trinder Cirencester.

NOVEMBER 30th, and December 1st, 2nd, and 3rd. BIRMINGHAM. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

DECEMBER 8th and 9th. CREWE. *Secs.*, S. Sheppard and D. Margetts, Esqs. Entries close November 26th.

DECEMBER 16th and 17th. NOTTINGHAMSHIRE. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

DECEMBER 30th and 31st. BURNLEY AND EAST LANCASHIRE. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

JANUARY 1ST, 1858. PAISLEY. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

JANUARY 4th, 1858. KIRKCALDY POULTRY AND FANCY BIRD SHOW. *Sec.*, Mr. Bonthron, jun., Thistle Street.

JANUARY 9th, 11th, 12th, and 13th, 1858. CRYSTAL PALACE. *Sec.* Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 19th, 20th, 21st, and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

FEBRUARY 3rd and 4th, 1858. PRESTON AND NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 18th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

THE CATTLE AND POULTRY SHOW IN BINGLEY HALL.

WE are now enabled to report that the statements which we have made from time to time with respect to the prospects for our next local agricultural gathering have been amply confirmed by the result, the entries having proved in all cases such as must be most gratifying to the active promoters of the Exhibition. Bingley Hall will be again completely filled, and while there is no lack of material we have good grounds for believing that we shall find also a very high degree of general excellence, as the catalogue will contain the names of all who have become eminent as exhibitors in the several departments. The subjoined table indicates in what particulars the present entries differ from those of the previous year, and furnishes at once the means of comparison with the Show of 1856. It thus appears that the entries of Cattle have increased from 109 to 135, the largest entry with one exception (in 1851) since the esta-

blishment of these meetings, and that there is also an increase in the entries of Sheep and Pigs. The collection of Roots, again, will be greater than that of last year; and although in some districts complaints have been made as to the unfavourable character of the season, there will, we believe, be a great number of very fine specimens brought together in the several classes, exhibitors from nearly all our principal root-growing counties entering the lists on this occasion.

The entries of Poultry exceed those of last year by about ninety, the total number being not less than 1300 pens—an astonishing collection at the present time, when so few inferior birds are sent for exhibition. There are 194 entries of Pigeons, the number last year being 205. The following is the table to which we have referred:—

	1849	1850	1851	1852	1853	1854	1855	1856	1857
Cattle	81	117	138	127	129	119	88	109	135
Sheep	40	55	71	83	59	61	64	46	53
Pigs.....	221	173	105	93	113	56	63	99	103
Total	342	345	314	303	301	236	215	254	291
Roots							142	119	130
Poultry		505	935	1138	1995	1608	1607	1210	1300
Pigeons		51	120	85	280	137	201	205	194
Total	243	556	1055	1223	2275	1745	1808	1415	1494

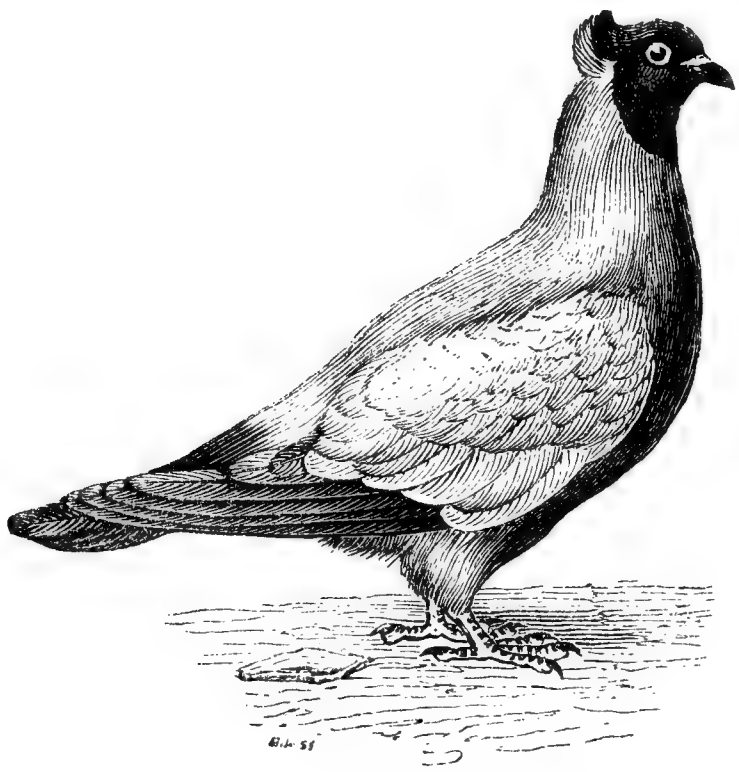
—(*Midland Counties Herald.*)

PIGEONS.

TOYS.

Variety 8.—THE NUN (*Columba nonna*).

French. Pigeon Coquille Hollandais. *German.* Farbenkopfige Taube.



The variety of Toys known as the Nun is a very old established sort, and derives its name from the white plumage, the head being as if it were covered with a black veil. They are by some supposed to have originated in Holland; hence the French name, which signifies the Dutch Pigeon with shell-turned crown. The Germans simply designate it the black or coloured-headed Pigeon.

The Nun is about the size and make of a common Dovehouse Pigeon; the beak is dark and of the usual length; the eye a clear pearl white; the feet bare. At the back of the head is a fine turn or hood. The plumage of the body is a pure unspotted white, the head, tail, and flight feathers of the wings being coloured. These parts are mostly black, but four other varieties of colour are not uncommon, namely, blue, red, yellow, and dun, in all of which the head, tail, and flights must match in colour. Thus the head is coloured all over, extending slightly down the throat. Some amateurs admire them when the inside of the hood is coloured as in the above cut, but generally they are most esteemed when the hood is perfectly white, the black lining being generally considered a blemish. Not less than seven or more than ten extreme feathers in each wing should be dark, and, in addition to the twelve primary tail feathers, a few of the upper and under tail covert feathers must be also coloured to make a nice even finish, which remark also applies to the small covert feathers on the wing pinions; and according to their colour they are designated Black-headed or Red-headed Nuns, as the case may be. They are pretty Pigeons, striking in appearance, good breeders and nurses. On the Continent there are two sub-varieties of the Nun, the one called the Beard Pigeon both in France and Germany, but it differs only in having white flights, the head and tail being the only coloured part; the other having the tail also white, the head only coloured. This is called the Death's-head Pigeon by the French amateurs, but I believe neither of them is so much prized as the first mentioned.—B. P. Brent.

DELAY IN SENDING DIRECTION LABELS.

A second article upon this subject appeared in your columns on the 20th of October from Mr. G. Ray, which I regret I have not been able to answer before this. When I said his proposal was impracticable I meant that it was so if the plan adopted by the Birmingham and Crystal Palace Exhibitions was followed. The plan now proposed by Mr. Ray is certainly *practicable*, but what would be the result? That at the Birmingham Show there would be seventy-six No. 1's, and at the Crystal Palace Show no less than 131 No. 1's—a great inconvenience, and leading to many errors. —W. H.

Poultry Sale.—Mr. Stevens's extra sale on the 17th included some *very superior* Partridge Cochins from Mr. Bridges, ten of the best birds averaging 35s. each, and the rest commanding very good prices. The Sebright Bantams of Miss Bridges also sold well, several producing over 21s. each. Capt. Snell sent some very good Buff birds, which realised corresponding prices. Mr. Breavington's Rouens were unusually good, and, along with some good Dorkings from Mr. Ransom and others, sold very well. It is satisfactory to see that really good birds always command purchasers at fair prices.

OUR LETTER BOX.

Silver Poland Fowls without Muffs (*A. H.*).—They must be shown in the Silver Poland class, and not in that for "any other distinct breed."

Golden-spangled Hamburgh Cockerel (*D. D.*).—The symptoms indicate diseased lungs or other viscera. If so nothing can save him. It may be only weakness. Try giving him a grain of sulphate of iron daily mixed with a little barleymeal, and give him more soft food and less grain.

Toulouse Geese (*P. S.*).—We believe they are always dark grey. We have already asked in our columns where *Chinese Geese* are to be purchased, but no one has advertised any.

LONDON MARKETS.—November 23rd.

POULTRY.

Poultry appears to feel the commercial crisis. The trade is unusually dull, and it is difficult to find buyers for much that is sent to market. We have never seen the demand so limited.

Large fowls	4s. 6d. to 5s. 0d. each.	Grouse	2s. 0d. to 2s. 6d. each.
Smaller do.	3s. 0d. to 3s. 6d. ,,	Snipes	9d. to 1s. 3d. ,,
Chickens..	1s. 9d. to 2s. 3d. ,,	Rabbits ..	1s. 4d. to 1s. 5d. ,,
Geese	6s. 0d. to 6s. 6d. ,,	Wild ditto	10d. to 1s. ,,
Ducks	2s. 3d. to 2s. 9d. ,,	Pheasants ..	2s. 6d. to 2s. 9d. ,,
Hares.....	2s. 0d. to 2s. 6d. ,,	Partridges ..	1s. 6d. to 1s. 8d. ,,
Turkeys	6s. to 9s. each.	Larks.....	10d. to 1s. per doz.

London: Printed by Hugh Barclay, Winchester High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietor, at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—November 24, 1857.

WEEKLY CALENDAR.

D M	D W	DECEMBER 1—7, 1857.	WEATHER NEAR LONDON IN 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
1	TU	Single Anemone.	29.986—29.897	33—15	N.W.	—	47 a. 7	53 a. 3	rises	☺	10 41	335
2	W	Polyanthus.	29.964—29.750	35—19	W.	—	48	52	4 a 18	16	10 18	336
3	TH	Primrose.	30.043—29.920	37—24	N.E.	.26	49	51	5 33	17	9 54	337
4	F	Stock Gilliflower.	29.988—29.900	38—30	N.	.12	50	51	7 0	18	9 30	338
5	S	Narcissus.	29.627—29.371	55—40	S.	.04	52	50	8 28	19	9 5	339
6	SUN	2 SUNDAY IN ADVENT.	29.502—29.473	57—51	S.W.	.02	53	50	9 53	20	8 40	340
7	M	Bear's-foot.	29.564—29.523	60—53	S.W.	.03	54	50	11 12	21	8 14	341

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 47.3° and 35.7°, respectively. The greatest heat, 58°, occurred on the 3rd, in 1835; and the lowest cold, 14°, on the 6th, in 1844. During the period 92 days were fine, and on 104 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 110.)

BY the following continental receipt, M. Sella states he is enabled to print intensely black photographs:—

SOLUTIONS.

	Cost.
A.—Two ounces saturated solution of bichromate of potash	6d.
B.—Five parts protosulphate of iron in 100 parts water, two ounces.....	3d.
C.—Ten grains gallic acid in two ounces distilled water	4d.

Soak the paper in solution **A**.
Dry.
Expose in pressure frame.
Soak in a large quantity of water till the yellow parts of the picture have become white.
Place in solution **B** three or four minutes.
Wash well in different waters.
Plunge in solution **C** till sufficiently developed.
Wash *well*.

We now come to fancy processes, in which the paper should be prepared by candlelight; or, if in the daytime, the yellow screen will be required before the window.

RED.

	Cost.
A.—Ten grains bichromate of potash.. Twenty grains sulphate of copper.. One ounce distilled water.....	4d.
B.—Twenty grains nitrate of silver in one ounce distilled water	d6.

Spread solution **A** over common writing paper, and let it dry. After exposure in the frame a faint copy is produced in yellow. This must be washed over with solution **B**, when a beautiful positive red picture makes its appearance. Wash well in pure water.

LILAC.

Soak one of the red pictures in salt and water—this will cause it to fade out; then place it in the sunshine, when it will again appear, but of a lilac colour.

BLUE.

	Cost.
A.—A saturated solution of ammonio-citrate of iron	3d.
B.—A saturated solution of ferro-prussiate of potash ..... Twenty drops of a thick solution of gum arabic	3d.

N.B.—Ten drops of mucilage of gum arabic to the ounce of ferro-prussiate solution.

Prepare the paper on one side with solution **A**. When dry, expose in frame. On its withdrawal wash over the face of the picture with solution **B**. Soak well in water. Place in a dark drawer until the picture appears distinctly.

BUFF.

Soak the paper in a saturated solution of bichromate of potash. It is then ready for the frame. When sufficiently intense the ground will be deep buff. Soak well in water until the yellows of the picture are changed to white.

Of these processes the RED will be found most useful in copying engravings; the BLUE, for sections of fruit or leaves when rapidity is desirable. The writer has specimens of each description, which have remained distinct during six years.

In any experiments involving the use of nitrate of silver, the manipulator will be surprised by *stains on the hands*. Such may be removed by touching them with a solution of iodide of potassium, twenty-five grains to the ounce of water. Then wash off all traces of the iodide.

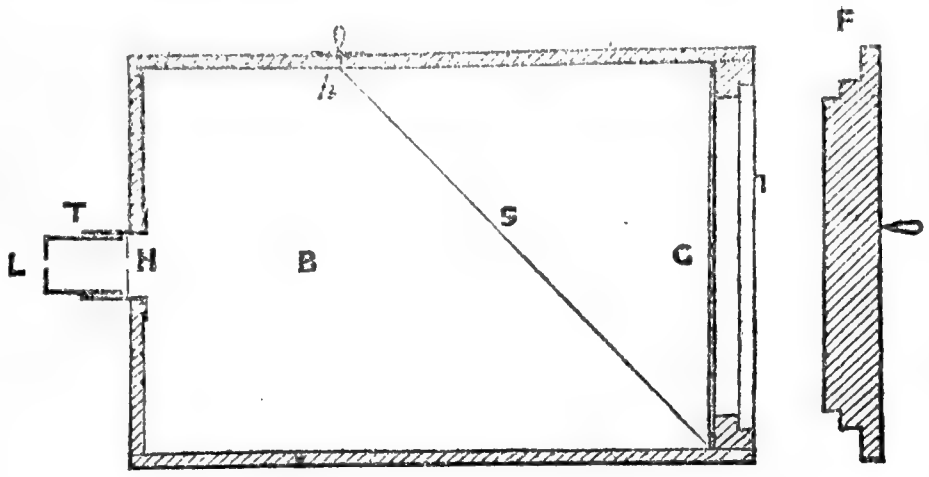
India-rubber finger stalls for the use of lady photographers can be obtained at the photographic repositories. The photographic art is particularly suited to the female sex; they possess a much nicer touch, and many of the heliographic processes require great delicacy of manipulation.

Having perfected himself in the printing processes, the student can proceed to the higher branches of the art.

For the photography of houses, trees, likenesses, and, indeed, any objects possessing solidity, a camera is necessary. The price of these at the opticians' shops ranges from £1 10s. to £50, according to the amount of labour that has been

expended on the lens with which it is mounted. We will first of all describe an arrangement quite as available for the beginner as a more expensive instrument, and which can be manufactured by any of our readers possessing a tolerable amount of ingenuity for a sum not exceeding *five shillings*.

The accompanying drawing will best explain its construction.



B.—A strong and light-tight box, eight inches by six inches, by six inches deep, forms the body of the camera. The whole of the inside must be painted a dead black.

H.—A circular hole to admit

T.—The lens tubes.

F.—The prepared paper frame, which fixes into a rabbeted opening at the end of the camera opposite.

L.—The lens.

G.—A ground glass for focussing. This is hinged by a piece of leather to the top of the camera; and when not in use is drawn up into the upper part by

S.—A string passing through a hole in the top, and looping on to a hook at the side of the paper frame. The hole (*h*) must be surrounded with a piece of green baize, to prevent any rays of light from entering the box.

(*To be continued.*)

MR. SALTER'S CHRYSANTHEMUMS.

November 16.

As soon as I received the invitation to see the Stoke Newington Show, I made a hasty breakfast, got my boots, top-coat, a clean collar, my Sunday hat, and went "as I was," post-haste, to catch the Hampton omnibus, in Kingston; saw Mr. Jackson's show-house in one whole blaze from end to end; was with the Messrs. Salter, father and son, about ten o'clock, and spent the whole day with them, rehearsing the old story, seizing on the principal points of the new discoveries, and stowing as much under-hatches as "all hands" could bring on board, that I might be in a fit and proper condition to appear before the dons of the East End, as a "knowing cove," like the "gent" who might bribe the Judges.

They have made a fresh arrangement in the "winter garden," a large house thirty yards long and eighteen or twenty feet wide. A main serpentine walk runs down the whole centre of the building, which has a door at each end, with loop walks round, ovals and circles at regular distances in the centre line; these walks break the outlines of the banks of living beauty in bloom, into deep bays and bold prominent capes, or headlands, in a very agreeable manner; and the effect is heightened very considerably by the skilful arrangements of "heights and colours," not a wearisome, monotonous, plain-level surface of surpassing beauty, as you see in England, with Pelargoniums and other florists' flowers. All the new kinds of the different sections are in one division for ready reference; behind the banks of Chrysanthemums are Orange trees in fruit, Camellias in blooming bud, and other greenhouse fine-leaved plants. And among the masses of continuous gorgeous blooms, are introduced the finer kinds of pot Conifers, as Libocedrus of sorts; Araucarias, Cephalotaxus, Cupressus, and such like. Then the very opposite, with different hardy kinds of Bamboo, as *Arundinaria falcata;* the very elegant *Bambusa plicata*, in bloom, the leaves a foot long, not two inches wide, and plaited beautifully, like some Curculigo leaf. It should stand among hardy ornamental grasses; and in good soil would grow as tall as wheat; also Pampas Grass, the African Sugar Cane, *Holcus saccharum*, *Bambusa mitake*, the native name. This, also, is hardy, with a leaf like that of a small-leaved Hedychium; *Yucca Californica* with long narrow leaves; all from a seeming bulb at the surface of the pot; very graceful. Then there are masses and fringes of the variegated Hydrangea, a fine winter plant; and there is a splendid new yellow variegated Hydrangea, which I never saw or heard about before. This and *Farfugium grande*, will run a race; *Centaurea candidissima*, and another species, a great novelty, called *Centaurea gymnocarpa*, seemingly an improved edition of *Cineraria maritima*, the Frosted Silver plant. This, I think, might be grown to look very much like the *Dusty Miller* Fern, from Peru. The white variegated *Vinca major*, I was told, would make a beautiful edging, if well trained along. Many other variegated plants are placed here and there; and masses of the crimson Dock, *Rumex sanguineus*, and of our common Beet, but grown profusely in pots, to give their tints in this arrangement.

The most generally valuable novelty I saw here, is a broad-leaved Myrtle, as much variegated as the old wavy leaf, fruiting as freely as *Eugenia Ugni*, and growing in the young state as fast as the green Myrtle. In the middle of a circular bed was a nice plant of the *Elephant's Foot* plant, from the Cape, surrounded by variegated plants, and edged with *Isolepis gracilis* and *Festuca glauca*, another very nice edging grass; and for fine-leaved plants, nothing seems now to go down so well as the dear old *Acacia lophantha*, the oldest, the cheapest, and the most handsome of all the Mimosa-looking plants which will stand the open air in summer. They propagate this for the London trade by the thousands down at Margate and Ramsgate; and no Londoner can return from hence without his Mimosa, "the newest discovery."

After studying this way of arrangement for a while, a new idea suggested itself, which, I think, a good many people will like, instead of taking the names of the best new and old Chrysanthemums. Why not classify the colours; and then give a few names of the best flowers in each colour? There are two colours which I cannot bear to look at, but which I shall never mention; and, no doubt, others have their favourite colours, and colours they cannot "abide." Therefore, in this way, one will see at a glance the favourite colour, and the best kinds in that colour. All I can say further, is, that I felt ashamed at last of taking up so much of the Messrs. Salter's valuable time; for the plan was four times more difficult to do than I thought it could be; and there was then a run

on the firm for these flowers, as intense as that on the Glasgow banks. I never saw people so thoroughly *daft* about new flowers before. What between customers, popping-in visitors, and the heads of the firm themselves, together with the liberality of the Stoke Newingtonians, I learned so much, that I could go about the country lecturing on Chrysanthemums for the whole winter.

The new idea is to give the best kinds in all the shades and colours, beginning with white; then light blush, dark blush, deep rose, Indian red, crimson, and purplish-plum; then rise through rosy yellow, brownish-yellow, golden yellow, to clear light yellow. These are all the shades in this family, or the nearest to them for my purpose. I shall give a separate list of new ones, and of special kinds; therefore new and old come in here on equal footing.

Best Whites. Lucidum, Vesta, Louisa, Madame Leo Donous, and Madame Doanage.

Light Blush. Alfred Salter, Hermione, Queen of England, Beauty, and Duke.

Deeper Blush. Aristée, L'Admirable, Nonpareil, and Miss Kate.

Deep Rose (a rich class). Versailles, Defiance, Leon Leguay, Themis, Baron de Scalebert, Alix, *alias* Voltaire, and Augustine rosea.

Nearest Crimson. Progne, Pius the Seventh, and Comte de Morney. The last two have lighter centres.

Purplish (a scarce colour). Albin and Beauté du Nord.

Indian Red. Pio Nono, Auguste Mie, l'Emir, and Christophé Colomb.

Rosy Yellow (that is, the face or front of the petals is rosy, and the back yellow. Such flowers when dressed look entirely yellow). Dupont de l'Eure, Lisias, and Two-coloured-incurved.

Brownish Yellow (these are brown inside, but yellow when dressed). Cassy, Cardinal (fine), Poudre d'Or, Ruth, and Le Bourreau. The last a new style, chiefly brown and tipped with yellow.

Deep, or Golden Yellow (a rich class). Golden Cluster, one of the oldest; Golden Queen of England, a sport from the Queen of England, one of the best blush flowers. (This flower is the same in every respect save colour). Annie Salter, Chevalier Duanage, and Cloth of Gold.

Clear Light Yellow. Etoile Polaire, Plutus, Crebillon, and M. Deschamps (fine).

Best Large Anemone-flowered. Louise, peach; King of Anemones, crimson-like; Nancy de Sermet, Fleur de Maria, both white; Gluck, yellow; Margaret of York, canary; George Sand, brownish yellow; Madame Gorderau, blush and sulphur; and Marguerite d'Anjou, very light yellow.

POMPONES.

White. Turris Eburnea, Argentina, Model, and Marabout, the latter very fine this season.

Blush White. Madame Fould, exquisite; Cedo Nulli; Rosinante, large hybrid; Bijou de l'Horticulture; and Graziella.

Deep Blush, out of doors; Pale, indoors. Surprise, Madame Rousselon, President, Decaisne, and Ariadne, a fine blush Anemone kind, with a deep yellow centre.

Pale Rose (a scarce colour). Madame Maillard, Adonis, Dureflet, Elise Miellez, and Pearl du Prado, which might be called a rose-coloured President Decaisne.

Dark, or Deep Rose. Ceres, very stiff; Cleobis, very dwarf; and Daphnis.

Dark Crimson (or nearest to crimson). Requiqui, Grand Sultan, and Fleurette, a very double kind.

Dark Red. Bob, Brilliant, Scarlet Gem, and Dr. Bois Duval.

Reddish-Brown. La Pactole; Chedeville, very dwarf; Clarissa, tall; and Sainte Thaïs.

Spanish Brown. Autumna; Aurora Borealis; La Roussé, dwarf; Etoile de Vénus, lighter than the others.

Golden, or Deep Yellow. La Vogue; Francis the First, fine; Triomphe; Le Jongleur, a dwarf La Vogue, as it were; Cybele, tall, and the showiest bedder in this colour.

Clear Light Yellow. Drin Drin, not Drine; Général Canrobert, very fine; Justine Tessier, lighter; Nelly, lighter; and Aigle d'Or, also lighter.

There are several names in the arrangement above that have not yet been catalogued, the flowers having only been seen this season, after the catalogues were printed.

The best new kinds and seedlings, or those which attracted my notice most in looking over the general collection, are the following. They are also in the above classifications:—

L'Admirable, mottled rose.

Progne (pronounced *Pro-ne*), the highest coloured sort yet obtained, coming very near the colour of *Géant des Batailles* Rose, a splendid thing, but not a florist's flower. It is of the medium size.

Madame Leo Dounous (*Duno*), ivory white, incurved, shaped like the best form of China Aster, without the guard petals.

Augustine Rozier, pale rose.

Madame Doanage, clear, snowy white.

Louis, very large, dark peach-coloured Anemone.

Louise, pure white.

Constantine, brownish yellow.

Sixte Quint (*Kang*), chestnut red, after *Pio Nono's* colour.

Baron de Scalebert (*Skaleber*), mottled rose, after *Christine*.

Ramond, yellow and orange; a great improvement on *Virgil*.

Aimée Feriere. The finest Chrysanthemum ever yet raised; a pure pearly white, incurved flower; every petal is uniformly tipped with crimson. A medium-sized flower after the style of *Hermione* and *Trilby*; the tips diffuse a blush-like shade on the white.

Yellow Queen of England. The best yellow yet raised, certain.

The most remarkable of the new Pompones are—

Polycarp, gold and brown, after *Mignonette*, but double its size.

Donna Alba Gonzales, deep golden yellow; very free bloomer; good, stiff, close habit, and the very best of this colour.

Ida, a fine canary yellow; large, handsome flower, and excellent close habit.

Cicile, a very early blush white.

Phantase, another early blush, deeper than the last.

Madame Fould. This is, without an exception, the best Pompone yet raised; a delicate, pale, blush white flower, of exquisite shape for a lady's eye, and of marvellous substance.

Salamon, a fine rosy carmine.

Pompone d'Or, golden yellow, the finest liliput.

Madame Andry (not *M. André*), pale peach and yellow, fine.

Algerie, nearly white, and very free bloomer.

Elise Caute, rose, with a white centre, the best of the strain of *Elise Miellez*.

New Anemone-flowered Pompones. This class is very rich in superior new kinds.

Madame Carnac, lilac, and a clear yellow centre; stiff, close habit.

Madame Molinie, deep rose; yellow centre.

Madame Chalonge, white, with a creamy centre, fine.

Madame de Montel, large white, with golden centre.

Madame Sentier (*Sangtie*), pure white. This is just *Nancy de Sermet*, the best of the old large Anemone kinds, in miniature.

Antoinette Adam, a large white hybrid, or half way between the old Chrysanthemums and new Pompones.

Madame Achile Dutour, pure white, and singular in having only the centre flower in each truss Anemonied, the rest being full petals.

Madame Grami, white, with a greenish-yellow centre.

The following are a sample of some important discoveries which I have made in my travels among the Chrysanthemums; the pronunciations are from country cousins, and the spellings were taken from the labels on exhibition plants, no matter where.

Abyn for *Albin*; *Augus-te My-e*, for *Agust* or *Ogust Mee*; *Bigu* for *Bishu* in *Bijou*; *Dupont de Leve*, *leur*, and *leure*, for *Dupont de l'Eure*; *Canrobert* for *Can-ro-bé*; *Durufflet* for *Du-ru-flé*; *Dree-ne Dree-nee* for *Dry-en Dry-en*, in *Drin Drin*; *Elysa* for *Eleese* in *Elise*; *Etoyl* for *Etual* in *Etoile*; *Glory* for *gluar* in *Gloire*; *Luter formosa* for *Lutea formosa*; *Nonparile* and *iel* for *Nonpareil*; *Mille* for *Miellez*; *Voltar* for *Voltaire*; *Powdry de Or* for *Poudre d'Or*; and *Tilbury* for *Trilby*.

Now, these things deserve the serious attention of young gardeners. A young man may be as clever as *the doctor*, and as wise as a judge; but unless he can spell and pronounce the names of plants something near correctness, depend upon it, the gentlefolks will think him no better than an old shoe, and will insist upon it that he is as stupid as a mule. And more than that, the florist's way of spelling and pronouncing ancient and historical names is so different from the ways in which they are in books, that many of the gentry themselves go wrong about them. Therefore, I would advise master and man to get one of Mr. Salter's catalogues, which is our best authority in this country, as he knows the ways of all the best florists from Russia to Gibraltar; but, of course, anyone would need to buy a few plants to entitle him to a catalogue, "free gratis." Meantime I have attempted, in the following lists, to make the spelling and pronunciation more plain, but not perfect; the explanations being within brackets.

Albin (*Albeen* the Gaelic name for Scotland), a fine crimson flower; but there is no real crimson yet in the family.

Alfred Salter (the heir to the Versailles Nursery, once the "Vineyard" of Lee and Kennedy, at Hammersmith), the finest of all the "delicate pinks."

Alix, the same as *Voltaire*, rosy carmine.

Anaxo, a large reddish orange; a favourite at Stoke Newington.

Annie Salter, the best known of all the yellows.

Aristée, a new light lilac, and very fine.

Augustine rosea, also new deep rose.

Auguste Mie, (*Ogust Mee*, royal mistress), a fine reddish yellow, tipped with gold.

Baron de Scalabert (*Skalaber*), a fine new deep rose.

Beauté du Nord (*Nor*), purple, rose, and crimson mixed.

Beauty, a fine large blush flower; a general favourite at Shows.

Cassy, a fine large reddish-orange flower.

Cardinal, a fine brownish-yellow flower.

Chevalier Dumage (*Dumaish*), golden yellow.

Christophé Colomb, reddish and pale violet; fine.

Cloth of Gold, a fine large show-flower.

Comte de Morney, dark purplish-crimson, with a lighter centre; fine.

Crebillon, new and clear yellow.

Defiance, very good, but not a first-rate white.

Duke, a fine blush flower.

Dupont de l'Eure (*Dupong*, a surname; *Eure*, name of a river in France, as Cossack of the Don, Douglass of the Dee, &c.), one of our finest show-flowers; rosy and yellow.

Etoile Polaire (*Etual Polayre*, Polar Star), fine golden yellow.

Golden Cluster, this and yellow *Queen of England*, are two of the best show-flowers.

Hermine (*Hermin* for *Hermione*). The greatest favourite at Stoke Newington, for dressing, and the largest blush flower.

King, another fine blush, approaching to peach.

Le Bourreau (*Boo-ro*, the executioner), new, fine, reddish brown.

L'Admirable, a new deep blush.

L'Emir, a favourite between reddish-crimson and Indian red.

Leon Lèquay (*Lai-quai*), fine blushing lilacky bloom.

Lysias (*Lee-see-a*), a beautiful reddish-orange.

Louise (*Loo-ee-se*), a fine, new, clear white.

Louis (*Loo-ee*), to show the difference in pronouncing the names of sister Louise and brother Louis.

Lucidum, still one of the oldest and best whites.

M. Dechamps (*Deshang*), a new, clear, light yellow. This M. Dechamps was the originator of exhibiting curious and fine-leaved plants at English exhibitions.

Nonpareil. The nearest of all the race to a true lilac when dressed.

Phidias (*Fee-du-a*), a fine rosy flower.

Racine (*Ra-ceen*). The most distinct yellow with dark tips to all the petals.

Ruth. The inimitable Ruth, with brown auburn curls, is a most appropriate name for this beautiful flower.

Themis (*h* and *s* to be sounded, an ancient name), one of the great favourites at Stoke Newington; a rosy blush.

Two-coloured-Incurved, an old, fine, rosy yellow.

Temple of Solomon, still a very good yellow.

Trilby (not *Tilbury*), a most delicate light blush; a famous one for *dressing up the petals*.

Versailles Defiance, a fine rosy-lilac blush.

Vesta, style like *Lucidum*; one of the best whites.

Alphabetical lists of Pompones and French-named Roses, with pronunciations, are much wanted for the rising generation; indeed, a ready key to the pronunciation of the florists' names would be acceptable to us all.

D. Beaton.

THE POLES.

This neat residence of — Hanbury, Esq., is about two miles from Ware, and five from Hertford. The greater part of the enclosed demesne, though agreeably varied in its surface outline, occupies a rather elevated position; the Ware and Buntingford road falling considerably to Ware on the one side, and rapidly to the village of Wadesmill on the other. On this road, at a considerable distance from each other, are two neat entrance lodges, built with brick, and painted, like the mansion, of a dark, sombre, stone colour. The gates are formed of wood, combining in their construction elegance and strength, and standing at a short distance from, but at right angles with, the highway. The approaches, so far as I saw them, were marked by the ease and gracefulness of their curves. The park is not distinguished for the extraordinary size or the legendary age of its timber; and yet it has a very attractive appearance, whether seen in glimpses from the highway, or more fully from the terraces in front

of the mansion, owing to the manner in which the trees are grouped, and the light and shade secured by the open spaces between them.

From the highway alluded to, peeps are obtained of the mansion; and nearer still, of two circular ends of glass houses. That led me to imagine, what I afterwards found to be true, that the place was more distinguished for its glass houses and fruit and vegetable gardening than for its pleasure grounds and flower gardens; the latter being very limited in comparison with the former.

In going from Wadesmill, after getting to the top of the hill, and before you come to a lodge, the first turning to the right, along a lane, brings you to the back of the kitchen garden, where, in a fine open space, is situated the beautiful garden-house so worthily occupied by Mr. Hume. All honour to those employers who thus think of the comfort and the health of their servants—an honour not an iota the less though ultimately they lose nothing even in a pecuniary point of view; such kindness on the one side producing, in all right-minded men, increased industry, and faithfulness on the other. Great changes in this respect have taken place within the last twenty years; but yet, though our journeyings are comparatively few, we find not unfrequent instances of gardeners living in places, where, owing to want of room and deficiency of sunlight, it is almost impossible that they or their families can be healthy.

Arrived at the north side of the kitchen garden with its ranges of houses, and having already alluded to the circular ends of glass houses in the pleasure grounds, we will make our first standing point there, near the mansion; a prudential fact I consider worthy the passing attention of the young gardener. This place used to be open to visitors only on Fridays. I suppose this was a necessary protective regulation when the houses, &c., were chiefly new. However that may now hold with general visitors, a discretionary power is left in the hands of Mr. Hume as respects gardeners, &c., who may see the place any day. In such circumstances the gardener should have two rules of action. The first is never to attempt to conceal a visitor from any of the family, for that might give rise to suspicions. The second is never to obtrude a visitor on their notice, or meet them unnecessarily, if it can be avoided. Unless where a clear understanding exists to the contrary, let these two rules be prudently and honourably acted upon, and much unpleasantness will be saved. The house being full of company, Mr. Hume took me so far that I had a perfect view of the front of the house, and could see that there was an ornamental conservatory on its west side, and yet neither of us came prominently within the sweep of the windows.

Our standing point, then, is the west end of the terrace walk that passes in front of the ends of the glass houses referred to, and where we look down on a deeply sunk square flower garden, separated from the house by a terrace-lawn rather higher than that on which we are standing; the front of that terrace being supported by a wall some five feet or so in height, but none of it seen above the terrace; the banks on the west and east sides being planted with choice shrubs, continuing on to the glass houses; and a bank of Cypresses, &c., being also beyond this garden to the southward, separating it from the park. The centre of this sunk garden is appropriated to beds of bedding plants; and four large triangular outside figures at the corners are filled with Roses; while the centre beds are relieved with large specimens of tree and weeping Roses planted in them, and growing beautifully. I may also mention that there are flower-beds on the lawn in front of the house, before you come to this deeply sunk flower garden.

Now, I do not much fancy grouping Rose beds with the general bedding plants, though some of our best gardeners still continue to do so; but that is neither here nor there. But what I failed to apprehend was, the idea of the designer in forming this deeply sunk flower garden, unless the square hollow was there ready made to his hands; and that this was the case is rendered more probable by the fact, that the general level of the park near the boundary is much the same depth below the walk on which we are now standing, the house being low rather than otherwise. The raising of this garden a couple of feet or more would have improved its appearance. At present it is shut in from the view of the park all round, and thus the flowers have a fine green background. But with these accessories there is no apparent reason why beds on a sloping lawn would not have answered the purpose equally well. I can easily conceive how in such a place it might be very desirable that the chief views from the house should be its park scenery; that the planting in the dressed grounds should be in unison with the style of the park; and that, though flowers near the house were very desirable, they should not be made conspicuous unless to those who wished to see them; and that hence a sunk flower garden that would not impede the park view would be very desirable. But in such a case the flower-beds next the house on the raised level, and the shrubbery separating the sunk flower garden from the park, would be out of character. I have never heard who laid out this garden, and therefore can, I hope, give no offence; but so many have seen it, that there will be no want of judges on both sides.

Another feature connected with the terrace walk on which we are standing. On each side it has a narrow glade of turf, dotted with flower-beds. The turf on the south, or park side, being bounded by a deep substantial wall that separates it from the park. There is nothing seen of this wall above the grass level of the terrace, but low continuations of the piers at regular distances, designed for the reception of vases, &c. Now, this place is so famed, that it will bear a remark that we might hesitate to make as to other places that have been laid out within these few years, and which are much nearer to us than the Poles; and it is this. In our fathers' days, a sunk, or ha-ha wall, was *meant* to be concealed, and to hide the boundary line. In these improved times, a boundary line is *so* beautiful; a deep sunk ditch in front of a concealed wall is *so* tantalising with its sweets and lovables, that we must carry the principal walk of the place within a few feet of it, so that everybody may see that a wall has been built, and a ditch has been sunk. This will be so far avoided at the Poles, when once the vases are placed on their pedestals. It would be avoided still more, if a low ornamental wall, say of open work, stood prominently above the grass, and that was ornamented with vases, &c. The boundary would then be more distinct, and marked; but then it would be ornamental, and more characterised by fitness and appropriateness. In such a case, or even with the contemplated row of vases, &c., I think the scenery within, and that beyond, so marked a boundary, should contrast instead of assimilate.

The ends of the houses seen from the highway, are the terminations of the east and west sides, of three sides of a square, of large span-roofed houses joined together. The south side between the ends is occupied by a small flower garden separated from the terrace by a trellis work of Roses, in a line with the ends of the houses referred to. The whole of the houses are beautifully finished, with broad slate shelves at the sides, and a strong slate platform in the centre. The west side is chiefly devoted to greenhouse plants, and

contained many fine Ericas, Boronias, Eriostemons, &c. The east side was chiefly devoted to stove plants and Orchids; the most of the latter being young, but growing vigorously. R. Fish.

(To be continued.)

THE POTATO CROP IN KENT IN 1857.

Contrary to the expectations I held out at Midsummer, the Potato crop of the present year has been more diseased in this neighbourhood than it has been since 1849. But there are some features about it worthy of notice, and which may enable us to partially escape this uncontrollable pest another year, if the season and other circumstances be like the past one.

In the first place, I may say that this neighbourhood is not generally a good one for Potatoes. A dry, stony soil affords them little moisture in the growing months, unless there be abundant rains during the time, in which case they do very well; but the months of May, June, and July being very dry with us, the Potatoes towards the end of the last-named month began to ripen, they being only small in size, and crop indifferent; and by the first or second week in August many of the early kinds were nearly fit to dig up; and those who had the good fortune to dig them up then, saved them, or nearly so, from disease. Some heavy rains fell at that time, which, starting the Potato into a second growth, rendered it more easily attacked by its inveterate enemy. The consequence was, the rapid development of the disease by the end of the month worse than for many years; and the subsequent enlargement of those tubers which escaped, has injured them very much in quality.

As I have said, the disease did not exhibit itself until the middle of August; and many hoped that its effects would not be serious; and they consequently left their crops in the ground until September, when they took them up, and to their mortification found the decay continued to spread after they were stored away; while those I speak of, which were taken up early in August, have kept tolerably well, only occasionally a rotten one being found amongst them; which is easily accounted for, by the fact of the Potatoes not being ripe at the time. But those dug up and stored away in the middle of September, though sorted over carefully at the time, have become very bad since; so that, taking the bad ones into account that were so at digging-up time, and those that have become so since, full three-fourths, or more, have fallen a prey to the disease; and this, with an indifferent crop, has made Potatoes both scarce and dear with us.

I may as well observe, that some parties, and amongst them one very extensive grower near here, did not take up the crop until the middle of November; as by that time the disease had so fully run its course, that those remaining sound at that time are likely to keep so all winter. Of the policy of this plan I say nothing; the party who did it has tried all plans before, including early and late planting, various kinds of Potatoes, manures of sundry kinds, and other plans, and has come to the conclusion, that they do not decay any faster in the ground than in the storehouse; thinking that where the seeds of the disease exist, the root is quite in as good a position to resist it in the ground, as when lying in confined heaps in some outhouse, where it is more likely to spread by contamination if it be propagated that way.

The season of 1857 has taught us not to delay taking up and storing away the Potato crop as soon as they become set and half ripened; for those that did so this year escaped; while the majority of growers, thinking the season was too far gone for the disease to do much harm, let them remain in the ground after the rains came, and, consequently, suffered as above. And there seem to have been no exceptions to the two cases, and but little difference in the way the various kinds of Potato were attacked; as some which had been asserted to be "disease proof," were as bad as any; and the early ones were as much affected as *Regents* and late kinds, although the former were much riper: but the rain exciting a second growth, laid the plant open to that disease which it was unable to resist: hence the result. J. Robson.

[This entirely confirms what we have for years urged; and once more we say, "*Plant in November, or early in December, and grow only the earliest-ripening kinds.*"—Ed. C. G.]

FLOWER-BED IRRIGATION.

We have all been accustomed from childhood to hear of the irrigation annually effected by the overflowing of the Nile; and the overflowings of our friend Mr. Mechi upon a somewhat similar subject are become almost as familiar, at least to the agricultural portion of the community. But neither the Nile nor the Tiptree Hall, neither the natural nor the artificial, expositions of what might be accomplished by the deposits of an overflow on the surface, will be here considered. No. The above is an agricultural question, and our subject must be strictly a floricultural one: yes, flower-bed irrigation. But how is this to be effected? The words "to irrigate" and "to overflow" seem indissolubly connected; and surely the idea of overflowing, or laying under water a flower-bed, perhaps a yard square, must appear altogether irreconcilable to any sane system of gardening tactics whatever; and in this we fully concur. But although we cannot consent to the absurdity of attempting flower-bed irrigation in the common acceptance of the word, still we by no means, as the sequel will show, ignore irrigation altogether.

A close and intimate connection of some years with gardening has, each succeeding season, forced upon us the absolute necessity of adopting or introducing some more effectual and less expensive mode of watering bedding plants than either of the two artificial means we at present possess; the cumbrous hose and the laborious water-pot being at present the only practical representatives of rain and moisture for many a long and parching week in June, July, and August. Now, experience has perfectly convinced us of the utter insufficiency of these two irrigating mediums of the day; firstly, on account of the great labour and expense occasioned for days and weeks together during the heat of summer in watering by hand; secondly, on the inadequate nature of the supply thus afforded to the plants, especially in exposed situations; and lastly, from the natural tendency of the surface of the soil to become what is termed "baked," hardened, and almost impervious to water, as is well known is the result of frequent waterings from a hose or water-pot. Now, these are all the certain drawbacks of the present system of watering by hand; and there are other incidental ones no less important, which it will not now be necessary to mention. That a great extra amount of labour, expense, and trouble is incurred at the busiest season of the year is undeniable, besides taking into consideration the hardened and Macadamised appearance of beds and borders treated in this manner; and to endeavour to obviate all these objections, and to point out a more perfect and less laborious system of conveying a sufficient supply of moisture to bedding-plants, are the intent and object of the writer in this communication; and were I not perfectly satisfied of the merits of the system I now advocate, I should not presume to intrude upon your pages.

Before building a house it is necessary to count the cost; and before adopting the system now proposed for irrigating flower-beds, men who delight in improving their flower-gardens may consider over, ere spring comes again, the propriety of carrying out the sure and simple system here introduced to their notice; and this system is no mere "baseless theory," but a tried, lasting, and substantial application

of art, in perfect unison with nature, in the shape of a system of cultivation, which, in connection with agriculture, may possibly be already familiar to many of your readers; it is the new mode of "subsoil irrigation," by means of which the great labour attached to watering gardens may be almost entirely dispensed with.

All Englishmen interested in flower-gardening, from Mr. Beaton downwards, must have felt an unpleasant amount of solicitude with respect to the welfare of their bedding plants during the parching drought of the past summer; and in three or four very extensive establishments with which I am acquainted, together with numbers of other large places, the expense for labour incurred in watering bedding plants alone, if fairly calculated, would completely astonish the uninitiated. Flower gardens, which will compel their conductors to employ during a dry season from ten to a score of men for a fortnight or three weeks at a time in watering by hand, must necessarily produce flowers in about the same style that a plaintiff procures a verdict in Chancery, *i.e.*, by a strong appeal to the *l. s. d.* principle. And if all gardeners do not buy their plants so dear, which I allow is not the case, perhaps from local advantages or other causes, still does the gardener exist who can aver that his plants have never suffered more or less severely from lack of moisture during dry seasons, or that other important work has not been retarded, or perhaps irretrievably neglected, because all his force was of necessity engaged in preserving his scarcely-rooted bedding plants from perishing of thirst. And, moreover, this water-pot warfare in a large establishment, where the life or death of ten or twelve thousand plants is concerned, as the most ignorant may conjecture, is no mean engagement. Now, our opinion of a man's intellectual abilities would not be increased upon seeing him engaged with a flint for an hour in attempting to produce a light in a damp tinder-box, when the same effect might be produced by a common lucifer match in one second. And to toil for days upon a labour that might be accomplished in a few hours, argues, assuredly, a like conclusion.

A truce to argument, however. The system advocated, as before remarked, is no utopian project, as those who have seen it in operation can testify; and in our opinion it only needs to be more generally known to become more generally adopted. Hitherto, we believe, it has been almost exclusively applied to kitchen gardening, and with the most satisfactory results; but the same system is equally applicable to the flower garden as to the culinary department.

In the formation of beds on this system, it will be necessary in the first place to "dig out the earth from one to two feet deep, so as to be able to form a bottom nearly water-tight, with sides about four feet six inches high, to prevent the liquid from running over until the earth has been moistened by it. The bottom may be of clay and chalk, or gravel, or lime, or any hard substance rammed; and upon the bottom put one row of half-drain tiles in the centre (that is to say, in the centre of beds three feet in width; or, if six feet, two rows); and loose, not jointed. There is an admission pipe sloping at one end to each rank of drain tiles, and a pipe at the other end of the bed to see when the liquid stands at four inches, and then to stop. The earth is then filled in as before, and proceeded with as in ordinary gardening. Water, or liquid manure, on being poured into the pipes, will pass along the whole length of the beds; and rising through the small spaces between the drain-pipes, partly by the capillary attraction of the mould, and partly by the attractive power of the roots themselves, will feed and nourish the plants." So writes Mr. Wilkinson, the able promulgator of this new system of cultivation, in his pamphlet on subsoil irrigation; and that it does nourish and greatly increase the size and produce of roots, vegetables, &c., is an undeniable fact; and that it may be applied with equal advantage to the flower garden is sufficiently obvious.

Three years ago I became the advocate of this system in a contemporary, relative to reclaiming some extensive tracts of wild forest land in the south; and after a silence of two years, with a more full conviction of its merits, I now feel prompted to recommend it strongly to the attention of all those who possess any attachment to flower gardening, or desire to see it advance in accordance with the progress and improvement, manifested by that conquest of mind over matter, which marks the advance of every other science or profession of our age. And I have now said enough, I believe, to render it sufficiently apparent, that by adopting this system the flower gardener may water his beds more effectually in a third of the time and at half the expense to which he could ever hope to attain upon the old system of watering by hand. And if any person doubt the ability of water to run up hill, *i.e.*, the principle spoken of as "capillary attraction," let him prove the truth of the assertion by resorting to the well-known experiment of placing water in tumbler, wine glass, or any other vessel; and then let him apply one end of a dry piece of loaf sugar to the surface of the water (to represent the dry soil above the pipes), and he will then have the satisfaction of seeing water mount up-hill, and in an instant feel the upper end of the piece held in his hand as moist as that immersed in the liquid.

One thing I have not alluded to, as I considered it would be hardly necessary in small flower-beds; and that is, a pipe might be laid in connection with the above to some main drain in a pathway to drain the beds dry at any time; or, as Mr. Wilkinson states, "a cock or plug at the end of each series of troughs or pipes will draw off the supply when desired, and admit the atmosphere, which is beneficial to roots." And, in conclusion, we have but one trifling obstacle in our road to prevent even the most bigoted professors of water-pot practice from adopting it. The system is patented by the gentleman whose name it bears; but the cost of adopting it is, I believe, a mere trifle in comparison with the benefits to be derived from its application, particularly in large establishments.—J. H. C., *Hamilton Place, Sydenham.*

EXTRACTS FROM MY POCKET-BOOK.

THE past summer, on the whole, has been a very productive one, at least in this county (Suffolk). Splendid crops of grain and herbage have been harvested by the farmer; and finer crops of fruit could not be wished for by the gardener. Housekeepers, I should think, have had a "good benefit" in the shape of preserving: and what a great blessing from our beneficent Creator, to have such a bountiful supply of "such good things" stowed away for old Winter, which is close upon us!

Vegetables have been good, with the exception of *Cauliflowers*, which have been bad indeed. Not one has been cut here since the handglass crops fit to send to a nobleman's table.

Bedding plants, considering the hot summer, have done well, with the exception of *Calceolarias* and *Lobelias;* the former were very moderate. The *Lobelia ramosoides* flowered most beautifully until the latter end of August; and by the middle of September every plant was dead. We shall be sorry to lose entirely such a little gem as this used to be. I am informed by Mr. Foggo (the very intelligent gardener at Shrubland Park), that the *L. speciosa* is taking the same course.

I should be glad if one of your numerous correspondents could inform us of the cause of this disaster.

The mildness of the present autumn is something very remarkable. *Heliotropes, Fuchsias, Cupheas,* and some other things, including the *Alonsoa Warscewiczii* are in "full feather." Other kinds of bedding plants are perfect masses of green; and *Dwarf Kidney* Beans were gathered here this day (Nov. 17), fit for table.

The wheat crops are in a very forward state in this locality. I was informed a few days ago by Mr. Anness (one of the largest and best practical farmers in this county), that wheat which that gentleman had planted on his farm in 1845, was twelve weeks before the blade made its appearance above ground, and this year it was up in ten days; showing that the ground must be, comparatively speaking, like a hot-bed. —JOHN PERKINS, *Thornham Hall Gardens.*

EPIDENDRUM CORIIFOLIUM.

A native of Central America, presented to the Society by G. U. Skinner, Esq.

This singular plant is, in all its parts, of a tough, thick, leathery texture; and is generally glazed, as it were, with a shining exudation. The narrow, stiff leaves are blunt, about six inches long, concave, with a sharp midrib. The spike, which is terminal, and about four inches long, consists of hard amplexicaul keeled bracts pressed close to the flowers, and forming a kind of cone before they expand. The flowers are pale green, very firm and leathery, with a broad roundish convex lip, having an elevated callosity along the middle. The lateral sepals, which are particularly thick, have a serated keel at the back.

It is a species of no beauty, nearly related to *Ep. rigidum;* but its leaves are much longer and narrower, and the flowers three or four times as large, and extremely coriaceous. It flowers in March or April in the stove.—(*Horticultural Society's Journal.*)

Epidendrum coriifolium.

KEEPING PEARS.

Much has been written and said respecting the best plans of keeping Pears. We have tried most of them, but with little success. As with Apples, much, of course, depends on their time of ripening, and the condition of the fruit; and both vary according to the seasons. For instance, last summer was very warm, which not only favoured the growth of our fine sorts of Pears as regards size, but also caused them to arrive sooner at maturity, though preserved with the greatest care. Perhaps the very hot weather had some influence on both Apples and Pears, by causing them to lose their acidity during their growth, without which they soon turn *mealy*, and often worthless, a fact not easy to explain. The mildness of the weather, on the other hand, may have hastened their decay after they were stored up.

It is a matter of regret, that some of our best sorts of autumn Pears ripen about one time, such as *Napoleon, Marie Louise, Bonne Louise of Jersey, Seckle*, and several others of less note. These seldom last through November, or, at least, to the middle of the next month, on whatever plan they are kept. About the end of October, with a view of retarding the decay of the sorts named, we tried the following plans, some of which may be considered novel. 1st. On a shelf in the fruit room. 2nd. Packed with paper in closed jars. 3rd. Buried a foot deep in dry sand. 4th. In a cold vinery, exposed to the sun and air. 5th. About half immersed in a pan of cold water. 6th. On damp turf covered with a broken hand-glass. 7th. In an open box protected from rain, on the top of the fruit room. 8th. On the lead gutters on the top of the same, exposed to the weather and drip of tiles. It may seem strange that the Pears on the top of the house kept as well as those in the inside of it on the dry shelf, especially those in the box, and nearly equal to those in the closed jars. We may here note, that this last plan is considered the best for keeping Pears. But it often happens that some of them rot; and the moist vapour from these tends to decay the rest, by which more harm is done than if the jars had been open to let the bad air escape. We should also mention, that when we hear of Pears being kept until spring in closed jars, they are kinds better suited for keeping than those we are considering. Those buried in sand were all rotten, except two *Napoleons;* and we have nothing good to say respecting those in cold water, but mean to try it again. Those on damp turf kept as well as those in the dry vinery, the only difference being, that some of the former began to rot in spots outside, while the latter decayed at heart. Some *Marie Louise* Pears which were free from mildew spots kept longer on the damp turf, than those equally sound did by any of the other plans.

Our plan of trying to keep Pears by exposing them to the weather may seem strange; but how often do we find sound Apples and Pears amongst damp leaves and grass, long after the same kinds which were carefully stored up are gone! But, of course, we do not advise such a plan in a general way, and not at all in severe weather. We may observe, that the largest or finest Pears often decay first; also, that the plan of keeping them that is most in accordance with the operations of nature must be the most effectual. What is it that keeps fruit back from ripening? Evidently the absence of warm weather. Then, keeping gathered fruit cool must be the surest method of preventing its going to decay. And those acquainted with the nature of fruit, know that the quality of Pears is greatly increased by keeping them a day or two in a warm place, before they are ready for dessert.—J. Wighton.

CEANOTHUS CUNEATUS.

Raised from seeds received from Hartweg in June, 1848, marked Ceanothus sp., with white flowers, a shrub six or eight feet high, from the Sacramento mountains. It is tender, and will not live in the open border. It flowers in May.

This shrub is described as follows, by Mr. Nuttall :—" A shrub six to ten feet high, with somewhat thorny greyish terete branches, very closely interwoven, sometimes forming thickets. Leaves half an inch or more in length, and about two lines

wide; very rarely with one or two teeth near the extremity; the numerous regular, simple, and oblique veins rather conspicuous on the lower surface. Flowers in small axillary umbels: the peduncles and pedicels increasing in length as the fruit ripens. Calyx and corolla white: petals cucullate, unguiculate. Styles united above the middle, and then spreading. Fruit as large as an ordinary pea, sub-globose; the exocarp somewhat pulpy, with three rather soft horn-like projections from the summit of the angles: the coherent base of the calyx unusually large. Seeds, even on both sides, black, polished. The whole plant (like several succeeding species) exhales a balsamic odour, and the mature fruit is covered with a bitter varnish."

It is said to grow as far north as "the dry gravelly islands and bars of the Wahlamut river above the falls," in Oregon; but it is best known from more southern regions; Hartweg's discovery of it in California having been anticipated by the naturalists with Capt. Beechey, and by Dr. Coulter, of whose dried plants it is No. 110. In our gardens it betrays a tender climate, for it is far more impatient of cold than the other Californian species, than which it is much less attractive; for its scanty white flowers produce a shabby appearance, for which the leaves and scrubby aspect of the species do not compensate.—*(Horticultural Society's Journal.)*

ENTOMOLOGICAL SOCIETY.

The November Meeting of the Entomological Society, was held on the 2nd inst., and was very fully attended. The chair being occupied by the President, W. W. Saunders, Esq., F.R.S., Treasurer of the Horticultural Society, &c. The donations received since the last meeting comprised the publications of the Society of Arts, the Dublin Natural History Review, (containing some valuable Entomological Memoirs,) and the 2nd Volume of Mr. Stainton's fine work on the Transformations of the minute Moths belonging to the family Tineidæ, the present volume being devoted to the species belonging to the genus *Lithocolletes*, the larvæ of which reside within the leaves of various plants, forming galleries or blotches, by the consumption of the vegetable matter, leaving the two surfaces of the leaves entire.

Dr. J. E. Gray, of the British Museum, exhibited living specimens of the case-bearing Caterpillars of a large Australian species of *Oiketicus* (a genus of Moths belonging to the family of Psychidæ), the transformations of which had been described by Mr. Saunders, in the transactions of the Entomological Society, and had been fully illustrated by Mr. Westwood in his memoir on these insects in the Proceedings of the Zoological Society.

The President stated, that he had received a box from Australia, coated over with the thick cases of this species, cut open and laid flat, with the long bits of stick arranged almost symmetrically on the outside, still remaining on the surface.

Dr. Gray also exhibited a curious species of Gall, from Ischl, in Austria, found by Miss Warne, on a species of oak, the texture of which resembled pale green kid. Also, specimens of another curious small Gall, found onRose trees, near West Wickham, nearly of a globular shape, but armed with several short conical points; together with the species of Eurytoma, reared from the last-named Gall; and which, although belonging to a family of parasitic insects, was considered by Dr. Gray to be the true maker of the Gall.

Mr. Walker stated that he had found the Devonshire Ink Gall, at Mill Hill, in which locality several of the oak trees had been inoculated in the preceding year by Mr. F. Smith, of the British Museum.

Dr. Gray stated that he had found it at Newport, in the Isle of Wight, so that it was evidently extending in an eastward direction.

Mr. Wollaston exhibited specimens of the very beautiful Beetle, *Chrysomela Cerealis*, from Snowdon; and called attention to the peculiarities of the wings of this and of allied species; suggesting the advantages resulting from setting one specimen, at least, of each species with the wings displayed.

Mr. Westwood stated that it had been the constant practice, both of the late Mr. Stephens and himself, to adopt this practice in their collections: that of the former now forming part of the National Museum; and that of the latter incorporated with the Hopeian Collection at Oxford.

Mr. Samuel Stevens exhibited a number of beautiful Moths and other insects recently received from Moreton Bay, Australia, where they were collected by Mr. Diggles, who has paid great attention to the transformations of Australian Lepidoptera; also, a number of fine Beetles from Delagoa Bay, South Africa, collected by Mr. Plant.

The Rev. Hamlet Clark exhibited two new British species of Water Beetles, from the Orkneys and the north of Scotland.

Mr. F. Smith exhibited the nest of a species of Mud Wasp, belonging to the genus *Pelopæus* from North America; the cells of which contained immature

specimens of two distinct species of the genus, namely, *P. violaceus* and *P. flavipes*. It was difficult to account for so remarkable a fact, since ordinarily the nest is formed by a single female, which deposits her young in the cells.

Mr. Westwood suggested the possibility that one of the two species might not be a true nest-maker, but took advantage of the nest formed by another species in which to deposit her eggs; as was exactly the case with the nests of humble Bees infested by the parisitic humble Bees (*Psithyrus*).

Mr. Francis Walker gave an account of the habits of *Aphis quercus*, one of the most curious species of the family of Plant Lice, remarkable for the extraordinary length of the sucker which the insect thrusts to a considerable depth into the bark of the tree. He had found it on the oak at Dulwich; also at St. George's Hill, Weybridge; and had only observed the males during the month of October and November.

Mr. Westwood read a letter from Mr. Brodie, of Swanage, Dorsetshire, giving an account of the recent discovery of a considerable number of fossil insect remains in that neighbourhood.

SUCCESSES AND FAILURES OF THE SEASON.

Allow me to say a few words with some of your correspondents, who have been stating their successes and failures during the summer that has hardly yet left us, although far advanced in November; the weather continuing mild, and scarcely any frost. On the 13th, occurred the first that has left any trace behind; still I had Fuchsias out in full bloom, in boxes, which were unhurt by it; but a circular bed of Fuchsias, and one of scarlet Geraniums, I have covered over nights, and during rain. The Fuchsias are still out, and make a respectable appearance for the time of year. The Geraniums I took up on the 17th; the mould was quite dry, and the wood was tolerably firm, as I had kept them as open as I possibly could, so that the sun might get into them: and with the keeping them dry, and the absence of frost, I hope I shall keep them for another season. I found it necessary to protect pots and boxes from rain for some time past, as their contents were making too much growth for the time of year. I have found from experience that a little trouble taken in this way is real economy, besides the plants being in bloom longer and better. For we may as well drown plants with the water-pot, as allow it to be done with the rain. They are easier to manage through the winter; and, as a matter of course, are better plants in the spring to start with again.

I will take a look, mentally, over the flower garden first, and note a few things that have done well; although I consider the failures of the most importance, because we can often give a reason for the failure when we compare notes; and when a plant, or a bed of plants do well, I think people generally are satisfied with their doing well, without inquiring the reason why. I will begin with the spring bulbs and annuals; for, whatever others may say to the contrary, I cannot get on at all without bulbs and annuals, and a good many of them too. The most of my beds, that are not mixed beds, are all planted with bulbs of some kind or other; and before they have done blooming, I have annuals put out between them. Now, whether the bulbs will suffer by this mode of working, I am not prepared to say at present.

Well, March was a very favourable month. We had twenty-one dry days; and, although we only had fifteen dry days in April, yet the rain was not heavy, the ground was not saturated; consequently, not very cold. Therefore, Hyacinths, and Tulips, in pots, did well also; Anemones, Crocuses, double Snowdrops, planted late, to come in with Crocuses; and all other bulbs, have done well; also Wallflowers, which I grow in pots on purpose for their green appearance, chiefly during the winter; and if they are in the way, at planting time, I thin them out at first, and afterwards remove them altogether.

On beds of Tulips I planted African Marigolds. I plant them thick, then thin out the single ones; but they will transplant in bloom very well. They have been a mass of bloom all the summer. For French Marigolds the ground was too stony, and they got too high soon; but during a temporary absence of the family, I cut them all off to about eight inches from the ground; they soon branched out again, and bloomed much better. Another bed, *Ageratum Mexicanum*, was capital, and is still in bloom. Another, and second to none, is a bed of Zinnias. They seem to like good, rich, light soil. They have done better this year than I have ever had them before; but if put out too early, they are apt to die off at the ground. But those who want a really good bed of them must, after pricking them out of the seed-pan, plant them singly in three-inch pots, and be not over particular about having a dozen or more more than the bed will require; then they can fill up any vacancy that occurs: the rest, of course, can go in the mixed borders. Zinnias require to be tied each to a separate stick when about a foot high. The *Commelina cœlestis* makes a very superior bed after *Nemophila insignis*, where it is requisite to keep the colour on the bed; and it will bear any treatment at almost any stage of its growth. A good soil suits its best. I have this season transplanted a whole bed after it showed blossom, and it did not seem any the worse for it.

Nemophilas of all kinds have done well: so have *Godetia rosea*, *Oxalis rosea*, *Lobelia erinus*, and *Lobelia ramosa*. The woodlice destroyed one lot. *Thunbergia alba*, and *aurantiaca*, in a northern aspect, and the *Eccremocarpus* have done well. And if it may be any advantage to your fair correspondent "Flora," who, it appears, has not succeeded very well, I will just say that I grow a plant in a pot during the summer, keep it in a cold pit during the winter, and in the spring it will throw up a lot of shoots. These I slip off, and strike in the Cucumber-frame; and they generally do well. It would be taking up too much of your valuable space to enumerate all that have proved satisfactory; therefore I will show the other side of the picture.

The *Cobœa*, a favourite, too, all but a failure. I should be glad of a hint from some successful raiser of the above. I have tried a variety of ways, still not to my satisfaction. *Phlox Drummondii* has been a complete failure. This, too, I had relied upon; as I had always succeeded well with it before. But on taxing my memory, I find I had previously grown it in light, rich mould; and the bed under notice was of a cold and an uncongenial nature. Sweet Peas have been a failure; though, I believe, if I had been more liberal with the water-pot, I could have told a different tale. *Tropæolum canariensis* has been very indifferent.

Things generally were late, such as annuals and bedding stuff; perhaps owing to May and June being rather dry. We had twenty-two dry days in each month; and on looking over what have failed, or partially failed, I find it is chiefly on the poorest ground: and had there been more time to attend to them all, there would have been but few failures. The prolongation of the summer has fully compensated for what little deficiencies we may have experienced in the earlier part of it; so that at the end of the year we may be able to present a more favourable balance, in a floral point of view, than a great many will in a commercial one. I fear I have very much exceeded my limits: therefore, if you will allow me, I will defer to another opportunity a continuation of the above.—The Doctor's Boy.

QUERIES AND ANSWERS.

CONSTRUCTION OF A VINERY.

"I have just completed a small Vinery, twenty-four feet by thirteen, in which I have introduced two things that I have not seen before; these my friends tell me are improvements. I here present them to your notice, leaving you to determine as to whether any mention of them in The Cottage Gardener would be of service to its readers. My first object before building, was to get as good a ventilation as possible, and that in the most simple way, and to give to the roof great strength, with a light appearance. First, with regard to ventilation: the plan I have adopted, is to have two wall-plates at the back, one placed twelve inches from the other;

the lower one lying on the wall; the upper one set up the distance before mentioned, by supports every six feet. Upon this plate the rafters are fixed. Between these plates on the inside, I place pieces of three-quarter-inch wood, two inches and a half wide, two inches apart; this gives the appearance of alternate openings and blanks. I have a frame of a corresponding shape held to the wall-plates by clates, having runners on them. By moving this two inches and a quarter, I can either open or close the ventilators: this I effect simply by a pulley and an endless cord. The plan I adopted for supporting my purline without upright pillars (which are always in the way), is to have tension rods fixed to the top and bottom of the rafters, (every six feet), and having on the under side of the purline a five-eight screw, eight-inches long, upon which a nut acts upon the tension rods; by which means the purlines can be lifted up, making the roof as firm as possible; so that men may get about it in any way without the least settlement. By this I think you will see that two other important points are gained, viz., a clear space in the centre of the house, and equal ventilation the whole length."—W. Youngman.

[We are much obliged for your interesting communications. The idea of the purline rod is a very good one. In the case of a greenhouse, such a rod would also do admirably for supporting creepers. Your mode of giving air at the back is a good one, so far as giving it equally is concerned; and you can regulate it from the one-eighth of an inch, to the full width of two inches; alternating with two inch and a half closed space, all along the back of the house. We presume your roof is fixed; and if there be neglect in giving air early, you will hardly have air enough; as, when all the ventilators are fully open, you will have little more than five inches out of the twelve-inch opening. The mode you have adopted is the same we have seen successfully used, instead of glass windows, for light and ventilation to stables and cowhouses. In this latter case, the sliding-frame is easily moved by the hand. You will easily manage yours with pullies: but the question is, will another man or boy, of no great experience, manage them as well as yourself? and will there be no danger of the slides, &c., getting out of order? Altogether, though obliged for the hint, we think it is rather intricate than simple. In such a building as yours, and with double wall-plates, we should prefer a stout inch board, long, and wide enough to fill each space, swung on pivots, the pivots being a little higher than the middle of the board. The lower half of the board would thus be heavier than the upper part; and a bit of lead fastened to it, would make it heavier still; so that, when left to itself, the board would become perpendicular, shutting up the opening. A string and pulley in the centre, at the top of the board, would pull the top of the board towards you; and by means of a pin to loop the string to, you could give a little air; or open it so as to have nearly eleven inches in width, or double what you would obtain by your mode. In cold weather, the draught of air would not be so keen, as by your method, by so many openings; at least, we think so. We are, however, much obliged for your kindness, and should be glad to hear how your mode answers.]

REMOVING LARGE HOLLIES, AND AUSTRIAN PINES.—HOLLY CUTTINGS.

"Be kind enough to inform me the best time for removing large Hollies. Will not November and December do, when the weather is dry and open, providing the plants have fine balls?

"When is the best time to put in cuttings of the same?

"Would large plants of the Austrian Pine remove well now? Is there much difference between a Scotch Pine and an Austrian Pine?"—Joseph Langley.

[From the 5th to the 20th of September is the best time to remove Hollies. The last ten days in May are a better time to remove large Hollies than the first ten days of December, January, February, March, or April. Wet weather is better than dry weather for removing trees in all seasons.

Holly cuttings never root, put in during any month.

Large plants of the Austrian Pine are the most difficult to transplant of all the Conifers; and you will kill yours if you attempt to move them. If your plants are of the kinds from the Black Forest of the Tyrol, you will see little difference between them, at present, and some kinds of Scotch Fir. The Scotch Fir assumes a dozen forms under twenty or thirty years of age; but finally will all run into two distinct kinds—the white and the red, or Braemar Forest Pine. You may try the Hollies now; but you will lose one-half of them.]

CUTTING DOWN A HOLLY HEDGE.

"I have a Holly hedge four feet high; and, on account of its hiding the prospect from the house, I want to reduce it to two feet. Were I to cut it down, would it injure the growth? If not, what time would be best? It is rather naked at the bottom."—Greenish.

[A Holly hedge four feet high and bare at the bottom must have been very badly managed. If it were fourteen feet high, and beginning to get bare at the bottom, one might pass an examination on it before learned critics; but there is no leg to stand on in this case. Do not mention it; but make up your mind between this and the end of next April to cut it down then, and not till then, to within one foot of the surface of the ground, and cut all the plants with an *upward cut.* Then clear the grass and weeds from eighteen inches on each side of it. Stir the ground then, with a fork, about three inches deep, and pick out the roots and weeds. After that, put on two or three inches of fresh soil, and mulch it with any kind of litter, just to keep a cool bottom; and in June and July give it three or four heavy waterings; and you will soon have the finest start for a Holly hedge in England. At the end of twelve months go over it, and cut back all the strong, upright, young shoots to one-half their length; and trim the side-shoots at the end of June. Do so yearly, till the hedge is "As you like it," and then keep it down to your liking.]

MULCHING WITH COCOA-NUT FIBRE.

"In June last I covered my Rhododendron beds with Cocoa-nut fibre, according to the suggestions in your paper. Will you be good enough to tell me what I should do with them for the winter? Should I leave the fibre on the beds untouched, or rake it off, and put it under cover for use next year? Or should the fibre be dug into the beds?"—M. H. B.

[Let the Cocoa-nut fibre mulching remain on the plants as it is till the end of March, then draw it off carefully. A little of the soil of the bed taken with it will be better than to lose a morsel of the dust. To every bushel of this add two bushels of some strong loam, so as to make a good, universal compost for all pot plants. Turn and mix this, mix and turn it, pound and thump, and beat it with the back of the spade. Then and there your compost is fit to pot *Golden Chains;* but, before potting, send up to the mills and get a fresh supply for the Rhododendrons. And while the thing is to be had so cheap, just put on double the quantity this year, and never take off more than half the depth again.]

NOTES ABOUT THE DOCTOR.

"My worthy friend, the village doctor, was more delighted than words can express when he read that his health had been really drunk in London; and he says that next summer, if at a *alive*, he must go and see the wonders which have sprung up in London since he last was there, viz., the Crystal Palace and the Experimental Garden; this last, especially, he is most anxious to inspect, as he intends to bring home many a wrinkle from it. Nothing could surpass the loveliness of the doctor's garden the past summer—such a display of colours! Yet some of the new beds, which he had hoped most from, did not turn out as well as he expected. One, for instance, filled with blue Nolana, edged with a large pink Verbena. But then, just next to it, was a bed planted with *Tom Thumb* Geranium, and white Petunias, mixed; and a more lovely contrast I never witnessed. There was, also, a bed of white Petunias, edged with *Tom Thumbs;* very lovely, but not equal to the one where they were mixed. But the bed which, more than any other, elicited the praise of the ladies for the time it continued in perfection, was a circular one, planted with the largest Asters I ever saw in shades of

colours, with a broad belt all round it of *Flower of the Day* Geranium.

"Last night we (at Dublin) had our first frost, and all our Dahlias are done for; so good-bye to out-of-door gardening till next March or April, when I hope to be able to give you some further accounts of the doctor's experiments with native flowers. By-the-by, I must not forget to tell you that he fecundated, last summer, the stigma of some common Digitalis with the pollen of some Gloxinias. Being at the time very much engaged professionally, he is not quite certain whether the experiment will succeed; but in any case he intends trying it again next summer. He begs to thank you for the hint concerning *Pinguicula grandiflora*, which, unluckily, does not grow in this neighbourhood, though abundant in some localities.

"Would you like to see a really beautiful bouquet? Place in the centre a well-formed flower of *Brugmansia Knightii*, and surround it with scarlet Geraniums, supported outside with Myrtles. The doctor brought such a one with him yesterday when he came to dine with us; and no bouquet was ever more admired. Do you know the origin of *Brugmansia Knightii?*

"I want the names of a few *greenhouse* Geraniums for bedding that will flower all the summer."—Italicus.

[Tell the worthy doctor there is no chance of seeing the Experimental Garden when he comes over, without an order from the Vatican. Why should we be behind the times in England, if the grand secrets were allowed to oose out first in Ireland? Let us rather endeavour to exchange "value for value." And to begin: we own we owe a great deal for that Aster bed of his, with the *Flower of the Day* round it; we shall all have it, and call this the "doctor's bed." Tell him, next time he comes, the *Digitalis* and *Gloxinia* will not breed, even in the hands of a doctor; and say, we shall take the responsibility of determining for him, that the experiment did not succeed. We do not know the origin of *Brugmansia Knightii*. That bouquet was a good conception, undoubtedly. The best three greenhouse Geraniums for bedding are, *Dennis' Alma*, *Crimson King*, and *Gauntlet*. Then a host of them come in for competition; but tell the worthy doctor that a man's fortune might be made in such a climate as yours is, out of those three Geraniums, by operating on them as he did on the *Digitalis;* and good legacies for one's uses might be looked for, by operating the pollen of the *Virginium* Geranium on the offspring of the three high-coloured ones alluded to. If you were to make very poor sandy beds, the *Diadematums* ought to do well with you; also *Sidonia*, and the small-leaved *quercifoils*, as *G. coccinea* and *superba*. But there is an immense accession to this class "under consideration."]

HEATING A GREENHOUSE FROM A DWELLING HOUSE.

"I observe in your notice to correspondents in No. 477 of The Cottage Gardener, you state that you had seen a greenhouse heated by a drawing-room fire. As my vinery adjoins my dining-room, in which there is a fire burning all winter, I shall be happy to hear how the heat of this fire could be made available to protect from frost a few bedding plants, such as Geraniums, Verbenas, Calceolarias, Ageratums, Alyssums, &c. I do not wish to go to the expense of a fire for these exclusively, as it is not my wish to force my Vines, having succeeded admirably this season without furnace heat. Indeed, I have no means of doing so without going to the expense of building furnace and flues, which I at present do not possess. I may observe, the front of my vinery is due south; the back of my parlour stove due east at the west end of my vinery; the chimney, in fact, forming part of the wall at that end. I find the Grape Vines more forward by a fortnight at the fire end than at its opposite end, although losing the afternoon sun. Now, I should be very happy to receive any suggestion, either from yourself, or any of your obliging contributors, that would assist me in getting enough heat from my dining-room stove, and keep the temperature in my vinery above freezing point. As I generally pay pretty good attention to my fire in cold weather, economy in fuel would not endanger any plan that might be suggested. I have already removed the brickwork from the back of my stove, which is furnished with a firebrick, generally at a white heat; the effect of which on the temperature of my vinery last winter was to keep the roof free of frost to about half its length, say fifteen feet; beyond that it seemed to have little or no effect. Having two thermometers, placed one at either end, I found generally a difference, varying from six to eight degrees. Having no bedding plants in last winter, I am unable to form any opinion as to the safety of those which my vinery at present contains. I intend having extra lights placed over them this year. The back of my vinery being a fourteen-inch wall to the north, I hope I may succeed in securing them from danger during the coming winter."—W. C.

[We are afraid that we can do but little to assist this correspondent without entailing considerable expense. Very probably, his present contrivance of removing the brickwork, and using a little covering for the plants, in very severe weather, might be sufficient of itself; though we should be doubtful. When we used the word "drawing-room" the other week, we ought to have said the "living-parlour;" but the word slipped in, because the drawing-room of the correspondent held the same position to the greenhouse as did the parlour of our friend who heated his greenhouse from a narrow boiler that surrounded the fireplace on all sides; so that a small amount of heat told upon the boiler. The flow-pipe was inserted near the top of the boiler, and the return near the bottom; the wall was thinned near the fireplace, as our correspondent has done; and thus a considerable amount of heat was obtained. The pipes went round level; for in all cases where the pipes rise above the boiler, the top of the boiler must be fixed, and be supplied by a cistern. If circumstances permit, we should prefer that the boiler be some feet below the heating-pipes, though they will do very well on the level. Now, if we understand the position of this dining-room fire, there would be little doubt, if the fireplace were furnished with a boiler grate, the house could be successfully heated by hot-water pipes; and when the heat was not wanted, stopcocks in the house would stop the circulation of the water. But, there must be a safety pipe, and, as already said, this plan would entail considerable expense.

In another such case, we have known a flue six inches wide, and rising considerably as it went, taken along the dividing wall, but mostly in the greenhouse, and turning back again to the chimney, which answered very well for the keeping out of frost.

We do not greatly admire those little portable stoves, used for heating shops, warehouses, &c.; but last winter we noticed several small ones that kept out the frost from houses filled with bedding plants. In every case, however, they were furnished with a small iron chimney that went outside the house, the joints of which were securely luted. If common care be exercised, no damage will ensue in the case of such hardy plants as you name. One such upright metal stove, costing some 30*s.* or 40*s.*, would keep the frost from such a house, placed at the end farthest from your dining-room fire. Clean cinders and coke should be chiefly used. A friend of ours uses two such stoves in a large house, seemingly more than three times the size of yours, and not only cultivates Vines, but grows and keeps some thousands of bedding plants. He has never had the least accident; but, as the stoves are light, he moves them outside when lighting them when they have been long disused; but when in use this is less necessary. However, he makes nothing of taking them out and in, and in the very coldest weather he can thus keep a temperature of about 40°. He is particular in luting a close-fitting joint when he moves the stove; and, of course, the pipe goes outside the house. As this would be entirely out of sight in summer, and would cost little, we question if, under the circumstances, our correspondent could do better.

Many modes may be adopted according to circumstances. A neat little lean-to house was placed against the garden side of a mansion. The floor was some five feet above the furnace that heated the scullery copper; a small flue was made underneath that floor, from the same furnace, and the draught let on or off, by means of dampers, without any bother with additional fireplaces or chimneys.

A merchant built a nice residence for himself a few years ago. A neat flower garden was on the east side of the house, communicating by folding doors with the living-room, the

floor being about two feet above the level of the garden. He wanted a greenhouse to be easily accessible, and easily managed. It was recommended to have it communicating with the above room, and between it and the flower garden; and to be heated from the kitchen boiler immediately beneath that room. After mature consideration, he placed his greenhouse on the west side of his house, that he might have something attractive on every side; and now, being a rather particular man, and having had the outside of his house nicely painted, he has pretty well resolved to keep his greenhouse empty during the winter. The smoke and the blacks from his fine smoke-consuming furnace, taking the shine off everything they touch; all of which would have been avoided by the plan recommended; as, then, the smoke would have issued from the lofty chimnies.

There is yet one idea suggested by a part of your letter, where you speak of having extra light put over your house, or plants, this year. Now, if all the house were covered with double sashes, and made air-tight between them, it would require a keen frost to do much harm in your circumstances. But, perhaps, you mean covering the plants with glass inside the house. Many years ago, in such a house we used to keep such plants in wooden frames covered with glass. In very fine weather the glasses were removed; in cold weather they could get plenty of air after the sun had partly heated the air of the house; and in very cold weather, the glasses of the frame were covered with mats, &c., just as we would do out of doors, only at a tithe of the trouble, as all would be nice and dry; and however cold and windy the external air, it would be comparatively still inside the glass house. We have known several cases of glass houses near a house very ornamental in summer, in which the plants were kept in the house in winter; but under Cucumber lights and boxes, merely, because it was very undesirable to have fire and smoke in such circumstances. We hope some of the parts will be suitable. We might have alluded to heating by gas; but your fireplace could not help you there, and we fear most people find it rather expensive. Mr. Thomson, of Dalkeith, has been inventing again in this direction; but economy and cost will ever be a matter of importance in heating by gas.

It would have been easy to manage our correspondent's case, had the fireplace now to be put in; but to get more heat from it now, at little expense, is the object. In a somewhat similar case in a pit, instead of leaving the hot firebrick exposed, we have made small chambers round it, and from that taken an open pipe of tin to the farther end of the house. We have heard of taking a metal pipe flue from such a fireplace; and we do not see how it would not answer if kept clean; but cannot speak from our own observation or practice.]

TO CORRESPONDENTS.

Plant from Balaklava (*C. B. R.*).—This plant found by you "on the side of a rocky hill, and yet moist in places, on the heights of Balaklava," is the *Lithospermum purpureo-cœruleum*, or purplish-blue Gromwell. It is a native of chalky districts in England, as well as the Crimea, and other parts of Europe. It is a hardy perennial, and your plant will probably flower well next May. It is readily increased by dividing the root. The barren stems, such as that you sent as a specimen, often put forth roots, and form neat, compact plants. They should be moved from the parents in the spring, when the borders are being dressed. It thrives well on a rockery.

Acorns of Evergreen Oaks (*A Constant Reader*).—We do not think they are valuable; but inquire of some London seedsman.

Roses (*A Regular Subscriber*).—As your Roses grow luxuriantly, yet produce no flowers, there must be some defect in the pruning. As we do not know the kinds cultivated, nor your mode of treatment, we cannot give you any other advice than that you had best refer to the indices of our back volumes. You will find ample directions for pruning Roses. Cocoa-nut fibre for borders and other purposes, can be obtained at the Cocoa-nut fibre Mills, Kingston-on-Thames.

Lycopodiums (*S. H. G.*).—Your Lycopods came to hand in a very satisfactory manner; but many of them are so nearly allied to each other, that it is difficult to make them out from mere bits. Many of them, however, can be readily recognised, being very distinct from each other. Your No. 1 is what is called *Lycopodium cuspidatum* or *cordifolium*. No. 2. Another form of the same. No. 3. *L. circinatum*. No. 4. *L. Louisianum*. No. 5. We believe it to be *L. flabulare*. No. 6. From the small bit we believe it to be the *L. complanatum*. *L. Wildenovii* is a very distinct species, differing widely from any other of the whole family; putting up tall branching fronds from one and a half to two feet high, and from six to nine inches in breadth when full grown. The stems, while young, are of a pale green, becoming quite white and wiry, and thinly clothed with leaf. This species, also, puts up its young shoots from an underground creeping Rhizome, something like Asparagus would do; so very different from the bird's-nest form of *circinatum*.

Treatment of Eugenia Ugni after Fruiting (*H. A. D.*).—If it get too much crowded with small shoots, thin them any time of the year; and if some of the shoots seem to grow too fast, nip off their points, at any time from the middle of May to the end of July. Recollect the exact treatment of a Myrtle. Do not prune or cut in a plant of the *Eugenia Ugni* till it is big enough and strong enough to bear and *ripen* fruit. The Horticultural Society made a great mistake about this plant. Instead of teaching people how to grow it for a fruit plant, they actually offered prodigious rewards to destroy the whole breed of it out of the country, by fruiting young plants and seedlings years before they were of a fruiting age. Treat your plant in all respects like a common Myrtle till it is four or five years old, and then it will fruit and ripen it.

Green Slime on Pots (*W. O. D.*).—We fear you must just wash again. What would prevent the slime growing, might, by absorption, injure the roots. You may use lime in the water. Soda would be a neutraliser, but might prove too much of a good thing. Give plenty of air, and do not let the soil be over wet. We are glad you succeeded with Hood's boiler. Could you not give us such information as would be valuable to the many inquiring about heating?

Heating a Small Greenhouse (*H. C.*).—We decidedly object, except for very hardy plants, to any stove where there is no chimney. All stoves deteriorate the atmosphere, and consume its oxygen. Those without a chimney do it far more. We do not think any of these iron stoves placed in your house will enable you to make a suitable tropical climate; but you may keep the hardier plants. To do this, you must have a flue, or a small hot-water apparatus, such as Thomson's Amateur Retort Boiler. Perhaps your greenhouse is so situated that you may be able to heat it from your dwelling-house. It seems a pity to go to much expense for a house of that size, twelve feet by eight feet. The iron stove with a chimney will enable you to keep your plants. In the summer you may have a tropical climate by keeping in the sun heat. See answers on a similar subject.

Leaves of Esperione Vine.—*(An Amateur Grape-grower on Mr. Hoare's plan.)*—Mr. Beaton will be obliged by your sending to him two or three leaves of your Esperione Vine.

Names of Fruits (*B. Vivian*).—Your Apple is *Pomme Royale*. Fork over the surface of the soil, and give it a good top-dressing; you will find that the best treatment for a tree of such dimensions. (*R. O., Eglingham Hall*).—1. and 2. *Beurré Diel*. 3. *Van Mons Léon le Clerc*. 4. *Passe Colmar*. 5. *Easter Beurré*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

November 30th, and December 1st, 2nd, and 3rd. Birmingham. *Sec.*, Mr. John Morgan. Entries close the 2nd of November.

December 8th and 9th. Crewe. *Secs.*, S. Sheppard and D. Margetts, Esqrs. Entries close November 26th.

December 16th and 17th. Nottinghamshire. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy. Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th and 13th, 1858. Crystal Palace. *Sec.*, Mr. W. Houghton. Entries close December 12th.

January 13th and 14th, 1858. Dublin. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

January 19th, 20th, 21st and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 18th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

BIRMINGHAM POULTRY SHOW,

November 30th, December 1st, 2nd, and 3rd.

(BY EXPRESS.)

List of Prizes awarded:—

Hamburghs (Golden-pencilled).—1st, Mr. W. Woorall. 2nd, Mr, Whittington. 3rd, Mr. Halken. *Chickens.*—1st and Cup, Mr. Clayton. 2nd, Mr. Botham. 3rd, Mr. Titterton.

Hamburghs (Golden-spangled).—1st, Mr. Woorall. 2nd, Mr. Bauforth. 3rd, Mr. Kershaw. *Chickens.*—1st and Cup, Mr. Chune. 2nd, Mr. Fell. 3rd, Mr. Dixon.

Hamburghs (Sliver-pencilled).—1st, Mr. Ludlam. 2nd, Mr. Archer. 3rd, Mr. Corbet. *Chickens.*—1st and Cup, Mr. Archer. 2nd, Mr. Archer. 3rd, Mr. Archer.

Hamburghs (Silver-spangled).—1st and Cup, Mr. Teebay. 2nd, Mr. Chune. 3rd, Mr. Dixon. *Chickens.*—1st, Rev.— Fellowes. 2nd, Mr. Breavington. 3rd, Mrs. Sharpe.

Polands (Black).—1st, Mr. Conyers. 2nd, Mr. Adkins. 3rd, Mr. Edwards. *Chickens.*—1st and Cup, Mr. Battye. 2nd, Mr. Ray. 3rd, Mr. Fox.

Polands (Golden).—1st, Mr. Greenall. 2nd, Mr. Fox. 3rd, Mr. Williams. *Chickens.*—1st and Cup, Mr. Greenall. 2nd, Mr. Williams. 3rd, Mr. Pettat.

Varieties.—1st, Mr. Greenall. 2nd, Mr. Fryer. *Chickens.*—Mr. Greenall.

Spanish.—1st and Cup, Mr. Fowler. 2nd, Mr. Bupt. 3rd, Mr. Page. 4th, Mr. Neilson. *Chickens.*—1st, Mr. Rodbard. 2nd, Mr. Brundrit. 3rd, Mr. Rake. 4th, Mr. Fowler.

Dorking.—1st, and Cup, Capt. Hornby. 2nd, Mr. Tilley. 3rd, Rev. S. Donne. 4th, Mr. Hoorocks. *Chickens.*—Rev. S. Donne. 2nd, Capt. Hornby. 3rd, Rev. S. Donne. 4th, Mr. Wakefield.

Cochin-China (Buff).—1st, Mr. Stretch. 2nd, Mrs. Fookes. 3rd, Duchess of Sutherland. *Chickens.*—1st and Cup, Mrs. Fookes. 2nd, Mr. Gilbert. 3rd, Rev. S. Donne.

Cochin-China (Brown).—1st, Mr. Cartwright. 2nd, Mr. Ford. 3rd, Mr. Ford. *Chickens.*—1st, Mr. Cartwright. 2nd, Mr. Bupt. 3rd, Mr. Hodson.

Cochin-China (White).—1st, Mr. Peters. 2nd, Mr. Chase. *Chickens.*—1st, Mr. Chase. 2nd, Mr. Herbert.

Dorking Cocks.—1st, Mrs. Moss. 2nd, Mrs. Hornby. 3rd, Countess of Chesterfield.

Spanish Cocks.—1st, Mr. Rake. 2nd, Mr. Teebay. 3rd, Mr. Dain.

Aylesbury Ducks.—1st, Mr. Weston. 2nd, Mr. Fowler. 3rd, Mr. Weston.

Rouen.—1st, Mr. Daft. 2nd, Mr. Brown. 3rd, Mr. Ashton.

Turkeys.—1st, Mr. Brand. 2nd, Mr. Meares. 3rd, Rev. — Fellowes. *Young Turkeys.*—1st, Mr. Brand. 2nd, Mr. Daft. 3rd, Mr. Stevens.

Geese.—1st, Mr. Heywood. 2nd, Mr. Daft. 3rd, Mr. Mansfield. *Young Geese.*—1st, Mr. Fowler. 2nd, Mr. Edwards. 3rd, Mr. Lloyd.

Fuller details next week.

LIVERPOOL AND NOTTINGHAM POULTRY SHOWS.

[We have received the following letters relative to these Shows being held on the same days. If, as Mr. Worrall states, the Liverpool was announced last January as to take place about the third week in the January of next year, this supports his claim to the right of priority. We abide by our recommendation that the Nottingham should be postponed until February; and we do so with no other motive than that we believe it will be for the convenience of exhibitors, and for the benefit of the Society.]

"If fault there be, it rests entirely with myself; as, being unable to attend the meeting of Secretaries at the Crystal Palace in January last, I wrote to the effect that, if it should be determined to have another Exhibition at Liverpool, it would be held about the third week in January next, of which remark was made in the *Field*, in the list of Shows to come. The present Committee, therefore, advertised in accordance with this early notice. And I ask you, sir, whether by thus keeping faith with the public, offering splendid prizes, and guaranteeing their prompt payment, they have made themselves liable to charges of "disreputable proceedings" and "shameful conduct?" as, if so, I fear the services of gentlemen will soon be lost to our Poultry Shows, and their present respectability and security sacrificed. Whether the Nottingham Committee will act upon your very judicious suggestion is a matter of perfect indifference to us; as I cannot believe that amateurs will consider the honour of winning a small money prize at Nottingham equal to that of carrying away the beautiful trophies from Liverpool, notwithstanding the pathetic appeal to their feelings.—I am, dear sir, your obedient servant, William C. Worrall, *Hon. Sec.*, 6, *Lower Castle St., Liverpool.*

"P.S.—The Liverpool Poultry Shows, will be found on reference, have not always been held on the 28th, 29th, and 30th January, nor in any particular week."

"Mr. Etherington, jun., brings some serious charges against the Liverpool Committee in yours of the 17th instant. He is wrong, however, in saying that that Show was, as last year, always held on the 28th, 29th, and 30th of January. The Show had previously been held in the third week in January; and was this year fixed for the same week, and announced in another poultry publication, before the Nottingham Committee had published their date. Another reason why the Liverpool Show should not be held on the last week in January is, that the Preston Show, which has hitherto been a large one, is announced for the first week in February; and, as you observe, the Nottingham Show would be held with more advantage to that Show, as well as to others, later in February."—Alpha.

"It is through the press that we have to look for redress for the many evils existing in the poultry hemisphere; and we should not have troubled you with any observations upon the collision of Poultry Shows, did we not feel we had been unfairly treated both by the Crystal Palace Company last year, and by the Liverpool in the present. And when we find you, sir, in your last week's remarks, by a somewhat ingenious distortion of the facts, giving countenance to these proceedings, we naturally ask ourselves, of what use is it inviting us to fix the period of our Shows, if another be permitted at the eleventh hour to step in and take advantage of our position? We wish to ask you, sir, did you or did you not, as the exponent of the views of The Cottage Gardener, invite the Secretaries of Poultry Exhibitions to fix upon the period of their Shows, and did we not immediately respond to that appeal by fixing ours upon the days announced? If it in any way clashed with the interests of Liverpool, why have they not said so? It was equally open to them to appoint such a time as would be most convenient to them; and we should then, from deference to their seniority, have chosen another period. But no: all is silent until it is necessary to commence operations for their forthcoming Exhibitions; and without a word of complaint or disapprobation, the mandate is issued that the Liverpool would hold its next meeting, as also close its entries, upon the very same days as the Nottingham. It requires no further comment: your readers will draw their own conclusions. We therefore beg to decline, on account of the heavy expenses we have incurred, adopting your advice of postponing our Show until the middle of February. We rather, attached to our Show, and anxious to preserve it, appeal through your enlightened periodical to the good sense and justice of the poultry amateurs; and we trust that they will demonstrate their appreciation of our endeavours and conduct by stepping forward and giving encouragement to the infant efforts of the Nottingham Central Poultry Association.

"Amongst other communications received by me on the subject, I beg to hand you the following:—

"'19th November, 1857.

"'Dear Sir,—I have read with pleasure your letter to the Editor of The Cottage Gardener, respecting the Liverpool Exhibition, and trust that you will not assent to his advice, to postpone the Show, simply because another Exhibition has, unjustly, and as you will observe, shamefully fixed the same days as you advertised months ago. I intended sending several pens to Liverpool, but shall not now do so. I will endeavour to send you about a dozen pens of one sort or another; and I trust that other exhibitors will support you in the same way. If you receive other promises of support, mention it to The Cottage Gardener, as it will show the Liverpool Committee what the public think of them; and the Editor of The Cottage Gardener, that it will not do for him to give such advice as he has done in the present instance.'—I am, &c., &c."

"I beg to request the favour of your inserting this."—John Etherington, Jun., *Sneinton, near Nottingham.*

GLOUCESTERSHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

While some Shows, held in connection with an Agricultural Society, seem to struggle through a long and weak childhood, others become at once strong as adults. This has been the case with that of the Gloucestershire Society, which is held alternately at Cirencester and Gloucester. It has always been successful; the entries have been ample, the quality of the birds exhibited good, and all have been pleased with it. It also possesses an invaluable help to success in an able and a willing Secretary, Mr. Trinder. The Poultry Show, forming part of an Agricultural Meeting, is more essentially, a holiday and a pleasure, than one devoted exclusively to birds. It draws a different public, and is more a local than a general show; yet we thought, on this occasion, that the good opinion entertained by the world of amateurs of the Cirencester Show had brought many distant names and birds to compete for the prizes. It is always a cheerful scene; and there is a sort of home-feeling when the crowing of the cocks

is heard, with the lowing of cattle, and the poultry is seen with the other occupants of a farmyard. Held, too, in a beautiful park, close to model-farm buildings, and mixed up with agricultural implements of every kind, the association of ideas was perfect. It had a little of Rosa Bonheur's "Horse Fair," but far more of that feeling which the most inveterate cockney knows, and must plead guilty to. It is a sort of respect and longing which is experienced when the man, much tied to business, or compelled to dwell in a town, comes suddenly in view of a substantial, well-found homestead on a sunny day; all seems happy and peaceful. The cattle, the pigeons, the poultry, and, above all, the pigs, seem to have nothing to do but to enjoy themselves. The inside of the house is associated with double cream, sparkling October, and rich, juicy gammons; and even the hardened business-man becomes softened and bucolic, and dreams of rural peace. A Poultry and an Agricultural Show would be a good place to sell copies of George Moreland's pictures, if it were attended by townsmen. As our business, however, is with the poultry only, we will curb our imagination, and settle down to our work.

Nearly 300 pens were shown in a large tent, in a sheltered spot. Cooke's pens were used; and, as usual, they left nothing to desire.

The two classes of *Dorkings* were excellent, and the prize birds in each of them were good enough for any competition. Many of the commended were of great merit. Mr. A. Popham's chickens, and Mr. G. S. Fox's adult birds, were beautiful. Their merits may be guessed, when exhibitors like Mrs. Fookes and Mr. Botham were only among the Highly Commended. We must premise, that in making our report, we notice only those pens that call for especial mark, as the prize list will afford full details. The single cocks were weak, the best birds being evidently in the general classes. It is become a general thing to note the improvement in *Spanish*; and it was here as remarkable as it has been of late. It was hard to decide among them, for there were many pens which would have had an easy victory a few years since. A close observer might, nevertheless, see both in adults and chickens, that good cocks are far more plentiful than hens or pullets. Mr. Nelson's adults were very good; as were Mr. Craigie's and Mr. Dawson's pullets in his chicken pen; and promise to make remarkable hens. Good birds in these classes were plentiful. We must speak well of the adult *Cochins*, especially the two prize pens; but the chickens were not equal to those at the same Show two years since. Among the latter, we saw five pens in which the pullets had twisted and almost falling combs. Such can never take a prize, unless the competition be very small. There was a pen of good Blacks, the property of Mr. Ford, and some very good Grouse, and White birds. The cock in the former pen was black, he was a bird of this year. The Grouse pullets were beautiful, but several of the cocks lacked the black breast. We are bound to speak in terms of praise of the White birds. We did not see a faulty-coloured leg in the two classes; and the two pens of chickens of Messrs. Loe and Titterton were shown in condition we have hardly ever seen equalled. The *Brahma Pootras*, likewise, deserve special mention, Mr. Botham took both prizes. *Malays* are certainly improving in numbers and quality. Messrs. Ballance and J. J. Fox, showed very superior birds.

The White *Game* were badly represented. The Reds were numerous, and of average merit, and the Duckwings better than usual. Messrs. Rodbard and Dawson were very successful in these classes. Mr. Buncombe also showed excellent birds; as did Messrs. Pearse and Shield. All the *Hamburgh* classes were meritorious, especially Mrs. Pettat's Golden-pencilled, and Silver-spangled; Mr. Elston's Golden-spangled; and Messrs. Adams and Botham's Silver-pencilled. Mr. Joshua showed a good pen of Silver-spangled. Two of the best pens of Silver-pencilled had each a crooked bird in it. The Silver *Polands* were beautiful. The first prize birds of Mr. Fryer were of high merit, and may be shown anywhere. The class for varieties showed excellent *Black Hamburghs*, the best *Sultan's*, (Mr. Dawson's,) we have ever seen, and some good *Silkies*. It was very hard to have only two prizes in a *Bantam* class, where eight pens each deserved one. Mr. Fowler's Game were beautiful. Mr. Bartrum showed good Sebrights.

Mr. T. P. Edwards took first prize with three *Geese*, weighing 51½ lbs. Their Toulouse competitors were very beautiful, but could not weigh against them. There was an excellent show of *Ducks*. Mrs. Fookes was first with three birds weighing 23½ lbs., followed by Mr. Ford, 22½. There were Highly Commended birds, weighed 22 lbs. The *Rouens*, though numerous, were not so carefully chosen as to bills as we have seen of late, nor did they weigh well, the heaviest being but 15¼. The *Buenos Ayrean* and the *Call Ducks* made amends. We have never in our experience seen the former so good. Eleven classes called for general commendations.

Mr. Baily was the Judge.

Dorking.—First, G. S. Fox, the Court, Wellington, Somerset. Second, Rev. J. L. Popham, Chilton, Hungerford. Highly Commended, J. D. Hewson, M.D., Coton Hill, Stafford; T. Porter, Baunton, near Cirencester. *Chickens of* 1857.—First, A. H. L. Popham, Purley Park, Reading. Second, C. R. Titterton, Birmingham. Highly Commended, Rev. H. W. Beadon, Latton, near Cricklade; G. Botham, Wexham Court, Slough, Bucks; W. A. Freston, Far Hill, Stroud; Mrs. H. Fookes, Whitchurch, Blandford, Dorset; Rev. J. L. Popham, Chilton, Hungerford; H. F. Wells, Aldboro' Hatch, Ilford, Essex; The Marchioness of Downshire, Easthampstead Park, Wokingham. Commended, G. Hanks, Quobwell Farm, Malmesbury; W. Joshua, Perrot's Brook, near Cirencester. (Two excellent classes.) *For the best Cock.*—First, T. Porter, Baunton, near Cirencester. Second, Mrs. Pettat, Ashe Rectory, near Basingstoke.

Spanish.—First, C. T. Nelson, Newhall Street, Birmingham. Second, T. Eacott, Devizes, Wiltshire. Highly Commended, J. K. Bartrum, Bath; G. Botham, Wexham Court, Slough. *Chickens of* 1857.—First, J. H. Craigie, Greenhithe, Kent. Second, W. Dawson, Hopton, Mirfield, Yorkshire. Highly Commended, T. Lyne, High Street, Malmesbury; T. C. Nelson, 3, Newhall Street, Birmingham; J. R. Rodbard, Aldwick Court, Langford, near Bristol. Commended, Rev. G. F. Hodson, North Petherton, near Bridgewater. (Good class.)

Cochin-China (Cinnamon and Buff).—First, J. K. Bartrum, Bath. Second, H. Tomlinson, Balsall Heath Road, Birmingham. *Chickens of* 1857.—First, Rev. G. F. Hodson, North Petherton, near Bridgewater. Second, W. Joshua, Perrott's Brook, near Cirencester. Highly Commended, Rev. J. E. Yonge, Eton, Windsor.

Cochin-China (Brown and Partridge-feathered and Blacks).—First, B. Ford, Ide, Exeter. Second, P. Cartwright, Oswestry. *Chickens of* 1857.—First, Mrs. Simpson, Norcott, Cirencester. Second, P. Cartwright, Oswestry. Highly Commended, Rev. H. G. Baily, the Vicarage, Swindon; Rev. G. F. Hodson, North Petherton, near Bridgewater. Commended, B. Ford, Ide, near Exeter.

Cochin-China (White).—First, W. Dawson, Hopton, Mirfield, Yorkshire. Second, H. Loe, jun., Appuldurcombe, Godshill, Isle of Wight. *Chickens of* 1857.—First, H. Loe, jun., Appuldurcombe, Godshill, Isle of Wight. Second, C. R. Titterton, Birmingham. Highly Commended, W. Dawson, Hopton, Mirfield, Yorkshire. (An excellent class.)

Brahma Pootra.—First and Second, G. Botham, Wexham Court, Slough. Highly Commended, J. H. Craigie, Greenhithe, Kent.

Malay.—First, C. Ballance, 5, Mount Terrace, Taunton, Somerset. Second, J. G. Attwater, Hallingwood Farm, Cobberley. *Chickens of* 1857.—First, J. J. Fox, Devizes, Wilts. Second, C. Ballance, 5, Mount Terrace, Taunton, Somerset.

Game (White and Piles).—Prize, W. Dawson, Selly Oak, near Birmingham. *Chickens of* 1857.—Second, W. Dawson, Selly Oak, near Birmingham. (The first withheld.)

Game (Black-breasted and other Reds).—First, W. Buncombe, Taunton, Somerset. Second, W. Dawson, Selly Oak, near Birmingham. Highly Commended, W. Buncombe, Taunton, Somerset; W. R. Lane, Bristol Road, Birmingham. (A good class.) *Chickens of* 1857.—First and Second, J. R. Rodbard, Aldwick Court, Langford, near Bristol. Commended, N. N. Dyer, Manor House, Bredon, Tewkesbury; W. Garne, Bibury; C. R. Titterton, Birmingham.

Game (Blacks and Brassy-winged, except Greys).—First, W. Dawson, Selly Oak, near Birmingham. Second, R. W. Fryer, Hinton Road, near Hereford. *Chickens of* 1857.—First, H. Parry, Wellington, Salop. Second, F. G. Dutton, Lydiard House, Swindon. Commended, W. Ballard, Braggs' Farm, Hockley Heath, Birmingham.

Game (Duckwings, and other Greys and Blues).—First, J. R. Rodbard, Aldwick Court, Langford, near Bristol. Second, W. Dawson, Selly Oak, near Birmingham. Highly Commended, J. E. Price, St. Martin Street, Hereford; J. R. Rodbard, Aldwick Court, Langford, near Bristol. (An unusually good class.) *Chickens of* 1857.—First, H. Shield, Preston, Rutland. Second, T. W. Pearse, Rye Close, Bedford. *For the best Cock.*—First, J. Lamb, Highworth, Wilts. Second, H. Shield, Preston, Rutland.

Hamburgh (Golden-pencilled).—First, Mrs. Pettat, Ashe Rectory, Basingstoke. Second, T. Keable, Rowdefield Farm, Devizes. Commended, C. R. Titterton, Birmingham; Master G. W. Wright, Savings Bank, Windsor.

Hamburgh (Golden-spangled).—First, W. A. Elston, Bugbrook, near Weedon. Second, W. R. Lane, Bristol Road, near Birmingham. Highly Commended, T. P. Edwards, Lyndhurst, Hants. Commended, J. K. Bartrum, Bath; S. Bowly, Horsepools, near Stroud; G. S. Fox, the Court, Wellington, Somerset; W. Joshua, Perrott's Brook, Cirencester. (A very good class.)

Hamburgh (Silver-pencilled).—First, C. Adams, 5, High Street, Windsor. Second, G. Botham, Wexham Court, Slough. (A very good class.)

Hamburgh (Silver-spangled).—First, Mrs. Pettat, Ashe Rectory, Basingstoke. Second, W. Joshua, Perrott's Brook, Cirencester. Highly Commended, Mrs. Simpson, Norcott, Cirencester. Commended, J. K. Bartrum, Bath; G. Botham, Wexham Court, Slough. (A good class.)

Polands.—First, R. W. Fryer, Hinton Road, near Hereford. Second, J. J. Fox, Devizes, Wilts. Highly Commended, H. Churchill, Gloucester. Commended, W. Dawson, Selly Oak, near Birmingham; T. P. Edwards, Lyndhurst, Hants. (A good class.)

Any other distinct breed.—First, W. Dawson, Hopton, Mirfield, Yorkshire (Sultan's Fowls). Second, H. Churchill, Gloucester (Black Hamburghs). Highly Commended, A. Watkin, Freedom Cottage, Walkley, near Sheffield (Sultan's); H. Churchill, Gloucester (Silkies).

Bantams (of any variety).—First, W. S. Forrest, Eagle Cliff, Greenhithe, Kent (Black-breasted Red Game Bantams). Second, W. R. Lane, Brown-Brook Farm, Edgbaston, near Birmingham (Brown Red Game Bantam). Highly Commended, J. K. Bartrum, Bath (Gold-laced Sebrights); Mrs. G. Finch, St. Nicholas Street, Worcester (Black Bantams); Rev. G. F. Hodson, Noth Petherton, Somerset. (An excellent class.)

Turkeys.—Prize, J. R. Rodbard, Aldwick Court, Langford, near Bristol (Silver-laced Bantams).

Turkeys (Young).—First, Mrs. Hewer, Sevenhampton, Highworth (Cambridge). Second, Miss J. Milward, Newton St. Loe, near Bath (Cock *French*, Hens *Norfolk*).

Geese.—First, T. P. Edwards, Lyndhurst, Hants. Second, W. Joshua, Perrott's Brook, Cirencester (Toulouse Geese). Highly Commended, the Hon. G. Howard, Charlton Park, Malmesbury (Toulouse Geese).

Ducks (White Aylesbury).—First, Mrs. H. Fookes, Whitchurch, Blandford, Dorset. Second, B. Ford, Ide, near Exeter. Highly Commended, B. Ford, Ide, near Exeter; the Rev. C. Fawcett, Somerford Keynes, Cirencester. Commended, W. Joshua, Perrott's Brook, Cirencester; J. Lane, jun., Barton Mill, Cirencester. (A very good class.)

Ducks (Rouen).—First, H. G. Lloyd, Manor House, Abbot's Leigh, Bristol. Second, Mrs. H. Fookes, Whitchurch, Blandford, Dorset. Highly Commended, W. Joshua, Perrott's Brook, Cirencester.

Ducks (any other variety).—First, Miss S. Perkins, Sutton Coldfield, near Birmingham (East Indian). Second, Miss I. C. Master, the Abbey, Cirencester (White Call Ducks). Highly Commended, G. Botham, Wexham Court, Slough (Buenos Ayres); C. Ballance, 5, Mount Terrace, Taunton, Somerset (Buenos Ayrean). Commended, Miss A. M. J. Master, the Abbey, Cirencester (White Call Ducks). (An excellent class.)

WILTS AGRICULTURAL SOCIETY'S POULTRY SHOW.

Held at Warminster, November 18th. Judge, G. J. Andrews, Esq., Dorchester.

Cochin-China (Cinnamon and Buff).—First, Mr. J. K. Bartrum, Bath. Second, Mrs. H. Fookes, Whitchurch. *Chickens of* 1857.—First, Mrs. H. Fookes, Whitchurch. Second, Mr. J. K. Bartrum, Bath. Highly Commended, Mr. T. Keable, Rowde.

Malay.—First, Mr. J. G. Attwater, Cobberley, Cheltenham. Second, Mr. J. J. Fox, Devizes. *Chickens of* 1857.—First and Second, Mr. J. J. Fox, Devizes.

Spanish.—First, Mr. J. K. Bartrum, Bath. Second, Mr. T. Eacott, Devizes. *Chickens of* 1857.—First and Second, Mr. T. Eacott, Devizes. Commended, Mr. J. J. Fox, Devizes.

Dorkings (Coloured).—First, Mr. C. Smith, Durnford. Second, Mrs. H. Fookes, Whitchurch. Commended, Mr. N. Barton, Corsley. *Chickens of* 1857.—First, Mr. C. Smith, Durnford. Second, Rev. E. K. Lutt, Elston. (The whole of this class possesses much merit.)

Game (any variety).—First, Mr. S. Elling, Sutton. Second, Mr. J. J. Fox, Devizes. Commended, Mr. T. Pain, Salisbury. *Chickens of* 1857.—Prize, Mr. J. J. Fox, Devizes.

Polands (any variety).—Prize, Mr. J. J. Fox, Devizes. *Chickens of* 1857.—First and Second, Mr. J. J. Fox, Devizes.

Hamburghs (Golden-spangled).—First, Rev. C. J. Down, Semington. Second, Mr. T. Eacott, Devizes. Highly Commended, Mr. J. J. Fox, Devizes. *Chickens of* 1857.—First, Mr. T. Eacott, Devizes. Second, Mr. J. K. Bartrum, Bath.

Hamburghs (Silver-spangled).—First, Mr. P. Cother, Salisbury. Second, Mr. J. K. Bartrum, Bath. *Chickens of* 1857.—First, Mr. J. K. Bartrum, Bath. Second, Mr. S. M. Mills, Elston.

Hamburghs (Silver-pencilled).—First, Mr. S. M. Mills, Elston. Second, Mr. G. S. Sainsbury, Rowde. *Chickens of* 1857.—First, Mr. T. Keable, Rowde. Second, Mr. G. S. Sainsbury, Rowde.

Barndoor, or any other sort (not pure breed).—First, Mr. J. G. Attwater, Cobberley, Cheltenham. Second, Mr. J. Whitaker, Bratton. *Chickens of* 1857.—First, Mr. I. Neate, Maiden Bradley. Second, Mr. J. Whitaker, Bratton.

Bantams (Gold or Silver-laced).—First and Second, Mr. J. K. Bartrum, Bath.

Bantams (any other variety).—First, Mr. J. K. Bartrum, Bath. Second, Mr. R. E. Vardy, Warminster. Highly Commended, Mr. J. J. Fox, Devizes.

Turkeys.—First, Mr. N. Barton, Corsley. Second, Mrs. H. Fookes, Whitchurch.

Geese.—First, Mrs. H. Fookes, Whitchurch. Second, Mr. M. Glass, Warminster. Highly Commended, Mr. R. Coles, Middleton.

Ducks (Rouen).—First, Mrs. H. Fookes, Whitchurch. Second, Mr. C. Smith, Durnford. Commended, Mr. J. J. Fox, Devizes.

Ducks (White Aylesbury).—First, Mrs. H. Fookes, Whitchurch. Second, Mr. G. C. Murton, Bishopstrow.

Ducks (any other variety).—First, Mr. G. S. Sainsbury, Rowde. Second, Mr. N. Barton, Corsley.

OUR LETTER BOX.

Bradford Show (*T. H.*).—Let the subject rest.

White Feathers in Spanish Fowls.—"Having purchased a pen of prize birds at the last Birmingham Poultry Show, of the black Spanish breed, and from which I have this year some very promising pullets, I shall feel obliged by your informing me in your next publication, if it is usual for the black Spanish fowls to have the tail feathers of the first moult slightly tipped with white, as many of mine have this defect: in other respects they are perfect, having pure white faces, and fine combs. Observing that many of your correspondents allude to the extraordinary mildness and productiveness of the present autumn, I beg to add my mite to the many wonders the season has produced. On Sunday the 8th inst., I gathered a fine and perfectly ripe Fig; and since, we have had a dish of Radishes and Lettuces, equal to any of spring growth. The Radishes produced from self-sown seed of the present year. We have had *Black Hamburgh* Grapes ripened against a wire trellis surrounding an aviary, and without any artificial heat, or protection of a wall. Our gardener has to do his work over again, from the quantity of Groundsel and Chickweed which now covers the plots of ground he had roughly dug for spring planting. We have magnificent autumn Roses and Chrysanthemums. The Apples and Pears in this district are of superior size and flavour, but are not keeping well."—Marie, *Worcester*.

[All Spanish chickens are hatched with many white feathers, especially in the flight of the wing. The white tipping of the tail feathers is very common, and not in any way detrimental to the character or purity of the birds while chickens. If adults moult with white feathers, it is more important, as they disqualify for exhibition; but the defect is not of necessity hereditary, and they need not be discarded from the breeding stock on account of it.]

Weight of Rabbits.—In answer to yours about the Rabbits weighing from ten to fifteen pounds, I must state that I never mentioned anything of the sort in my papers, but see some one has done; but who he may be, I do not know. I have some to dispose of now, of a very large and good breed myself; and should be very glad to send particulars to anyone wanting any of a large, long-eared breed. In the case of the Rabbit having a part of its ear bit off, I should say if the injury be extensive, it would be a drawback at a Show, especially in close competition. But if the Rabbit be good in all other respects, and the injury be not so large as to make the ear hang down longer than it naturally did, I should bring the wound together by a stitch. If the Rabbit were still the longest in ear, and the prize was especially for that point, it must get the prize. I would also inform the gentleman that there are to be no Rabbits at the next Crystal Palace Show.—Percy Boulton.

Pigeons Diseased.—"Can you give me the cause and cure for the following disease, which has carried off a number of my best Pigeons this season. The birds when attacked have a sickly appearance, and often and easily purge and vomit a thin watery substance, which wastes them away until they become so unshapely and weak, that they cannot fly."—Amateur.

[I fear I can give your correspondent, "Amateur," no certain cure for the malady under which his Pigeons sink. I conclude they are confined; and, consequently, unable to procure the many little condiments necessary for their well-being. I would merely suggest a few questions—Is their abode damp and cold? Can they procure grit and lime, such as broken oyster-shells, or old mortar-rubbish? Do they ever get green food, as Lettuce or Cabbage? or, are they allowed salt in any form? or I might suggest a variety of diet, a few good Beans, and no hemp or rape seed. If, however, the Pigeons have their liberty, it might be well to examine if their food is quite wholesome; if there be anything injurious in the water they drink; or, if they pick up grit which contains any deleterious ingredient. Pigeons properly provided for, that have due liberty, are rarely ill, though in-and-in breeding will make them weakly, and more prone to disease. I am not acquainted with the complaint "Amateur" mentions; but his description comes nearest to what is called "wet roup," by the old writers on Pigeons, and who prescribe "once in two or three days three or four Peppercorns, and a handful of green Rue in their water."]—W. P. Brent.

White Ear-lobe in Game Fowls.—Washing White Plumage.—*(Mary McDuff.)*—The white ear-lobe is no objection in a Game cock, nor is it desirable, as the whole face and cheek of a Game cock should be of a bright red, for appearance' sake. It is not a characteristic of the breed; but, as in many others, it appears at times. White plumage may be washed with soap and water, soft soap and water, or a little soda in water. A sponge should be used, and the fowls should not be turned out till they are dry. They should be put in a basket with clean soft straw; and in very cold weather, put before, but not close to, a fire. Dark hens with a yellow or red lackle.

LONDON MARKETS.—November 30th.

POULTRY.

The trade is still lamentably bad. The supply of Pheasants and Partridges exceeds anything ever before seen, and they have been sold at almost nominal prices.

	Each.		Each.	
Large fowls	4s. 6d. to 5s. 6d.		Grouse	1s. 9d. to 2s. 0d.
Smaller do.	3 0 ,, 4 0		Snipes	0 9 ,, 1 3
Chickens	1 9 ,, 2 6		Rabbits	1 3 ,, 1 4
Geese	6 0 ,, 7 0		Wild ditto	0 6 ,, 0 10
Ducks	2 6 ,, 2 9		Pheasants	1 6 ,, 2 3
Hares	1 9 ,, 2 0		Partridges	1 6 ,, 1 9
Turkeys	6 0 ,, 10 0		Pigeons	0 9 ,, 0 10

Larks, per dozen, 0s. 10d. to 1s. 0d.

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WEEKLY CALENDAR.

D M	D W	DECEMBER 8—14, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
8	Tu	Alyssum balinifolium.	29.553—29.401	59—51	S.W.	.03	55 a. 7	49 a. 3	morn.	☾	7 48	342
9	W	Spring Cyclamen.	29.500—29.349	59—50	S.	.15	56	49	0 a 27	23	7 21	343
10	Th	Tangier Fumitory.	29.419—29.275	56—43	S.	.33	57	49	1 39	24	6 53	344
11	F	Narrow-leaved Golden Rod.	29.512—29.201	52—42	S.W.	.19	58	49	2 51	25	6 26	345
12	S	Winter Aconite.	29.318—28.955	54—39	S.	.44	59	49	4 5	26	5 57	346
13	Sun	3 Sunday in Advent.	29.093—28.834	49—39	S.W.	.02	viii.	49	5 17	27	5 29	347
14	M	Laurustinus.	29.922—29.412	47—31	N.W.	.01	1	49	6 30	28	5 0	348

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 45.9° and 33.6°, respectively. The greatest heat, 61°, occurred on the 13th, in 1842; and the lowest cold, 11°, on the 13th, in 1846. During the period 114 days were fine, and on 82 rain fell.

An ordinary Meeting of the British Pomological Society was held at St. Martin's Hall, Long Acre, on Thursday the 3rd of December. Robert Hogg, Esq., Vice-President, in the chair.

The Meeting was numerously attended, and the collections of fruit from all parts of the country were large; so much so, that although the meeting continued till a late hour, it was found impossible to examine the whole at one sitting.

The Meeting was informed that Robert Hanbury, Esq., of The Poles, Herts, one of the Vice-Presidents of the Society, had liberally placed the sum of *Five Guineas* at the disposal of the Society, to be applied as prizes for the production of new and improved varieties of fruit. Alexander Scrutton, Esq., of St. Ann's Hill, Wandsworth, a member of the Society, made a similar donation of *Three Guineas*. H. G. Bohn, Esq., of Twickenham, gave *Two Guineas*, for the best new late Seedling Strawberry. The Editors of The Cottage Gardener offered *Two Guineas;* and Mr. Rivers, of Sawbridgeworth, *Two Guineas*, to be applied as stated below; and Mr. M. Busby, late of Stockwood Park, gave *Two Guineas*, to be awarded to the best dish of Golden Hamburgh Grapes, to be shown as below.

The subject of Prizes, as suggested at the previous Meeting was considered; but the terms in which the whole matter was expressed were so vague, that the matter was fully discussed, *de novo;* and it was resolved that the Society award the following prizes, should the subjects sent be considered worthy; and that there should be a repetition during next season of the prizes for Seedling and New Grapes, as last year, viz.:—

1. For the best Seedling Grape having a Muscat flavour ..... Two Pounds.
2. For the best Seedling Grape of any other description not having a Muscat flavour ..... Two Pounds.
3. For the best Grape not a Seedling, raised in this country, and not in general commerce ..... Two Pounds.
4. For the best Seedling hardy Grape to ripen in the open air, and which shall be superior in quality to those already cultivated..... One Pound.
5. For the best six varieties of late Dessert Pears, three specimens of each variety to be exhibited at the Meeting on the 4th of February next, *offered by A. Scrutton, Esq*.... Two Pounds.
6. Second prize for the same, *by A. Scrutton, Esq.* ..... One Pound.
7. For the best Seedling Late Strawberry, which is not in general commerce, *offered by H. G. Bohn, Esq.* ..... Two Pounds.
8. For the best Seedling Early Peach, *offered by Mr. Rivers* ..... Two Pounds.
9. For the best Seedling Late Peach, *offered by the Editors of The Cottage Gardener* ..... Two Pounds.
10. For the best Seedling Early Apricot, *offered by R. Hanbury, Esq.* ..... Two Pounds.
11. For the best Late Apricot, *offered by R. Hanbury, Esq.* .... Two Pounds.
12. For the best Early Nectarine, *offered by the Society* ..... Two Pounds.
13. For the best Late Nectarine, *offered by the Society* ..... Two Pounds.
14. For the best dish of Golden Hamburgh Grapes, *offered by Mr. Busby*..... Two Pounds.
15. For the best Early Dessert Pear, *offered by R. Hanbury, Esq.* ..... One Pound.
16. For the best Seedling Late Kitchen Apple, *offered by Mr. Spencer, of Bowood* ..... One Pound.

The Society is thus enabled to offer the sum of Twenty-eight Pounds as prizes, for the encouragement of new and improved varieties of Fruits. The days of the meeting for the award of the several prizes have not yet been appointed, with the exception of that for Dessert Pears, which will be on the 4th of February next. It cannot fail to be a cause of mutual gratification to every one interested in the welfare of the Society, to find it thus exhibiting such signs of stability and activity. Much has been done; but much more still remains to be done, in the prosecution of a knowledge of fruits, and the management of fruit trees; and it is hoped that every member of the Society will use his influence not only to extend its numbers, but contribute as much as he possibly can to the Meetings, so that the information there obtained, and the conclusions arrived at, may be as extensive and satisfactory as the importance of the subject demands. After the arrangement of the prize list, the Meeting then proceeded to the examination of the fruit.

Mr. Stephens, of Chingford, Essex, sent four varieties of Seedling Pears, all of which possessed qualities of greater or less excellence; none of them being positively bad. No 3 is a pretty good variety, with a melting flesh, but considerably gritty at the core. It has a

Swan's Egg flavour; and, though good, cannot be regarded as a desirable acquisition. No. 11 is of the size and shape of *Moccas* a variety raised by Mr. Knight. Its flesh is quite tender, melting, juicy, and sweet; but it has no aroma. Though as good as many in cultivation, it was not considered a variety worth adding to those already grown. No. 23 is of a long tapering shape, completely covered with bright cinnamon-coloured russet, and having much the appearance of *Baronne de Mello*; but is much superior, even to that excellent variety, being very tender, and melting, exceedingly juicy, very sugary, and with a rich aroma. This was *highly commended* by the Meeting. No. 26 is a melting variety; but the juice is watery, and without aroma, and the flesh is gritty.

Mr. Matthews, nurseryman, of Clapham, brought a Seedling Pear, which he called Matthews' Eliza. This is evidently of the race of Easter Beurré, and was raised by his father-in-law, the late Mr. H. Groom. The fruit is very handsome, and will rank among the large Pears. Its shape is much of the appearance of *White Doyenné* with the features of *Easter Beurré* about the stalk end, though not towards the eye. The skin, when ripe, is of a pale citron, or straw yellow, with the faintest tinge of green. The flesh has an orange-yellow tint, is quite melting, juicy, and sugary, with a fine mixture of vinous acid, which gives it a refreshing and lively picquant flavour. This was considered *well worth growing*. The fruit was grown on a standard.

Mr. McKelvie, of Stevenstone, near Torrington, Devon, sent a Seedling Pear, which had much the appearance of *Bürgermeistre* both in shape and colour; but the flesh was not only gritty, but very coarse-grained, quite watery, and without flavour and aroma.

Of Seedling Apples there were several, the first in importance being that sent by Mr. Laxton, of Stamford, which he called Stamford Pippin. This is about the size, and a good deal of the shape, of Franklin's Golden Pippin. The colour is a fine golden yellow; skin smooth and shining, with here and there tracings of very thin, pale, ashy-grey russet, particularly about the eye, with a patch of the same round the stalk. The eye is small. Flesh with an orange tinge, fine-grained, crisp, and juicy, with a fine and peculiar aroma. This was *highly commended*. This is the second season this variety has been before the Society; and it has been found, on both occasions, to deserve the commendations of the Meetings.

Dr. Davies, of Pershore, sent a Seedling Apple raised from the *Blenheim Pippin*; but it was too like its parent to be regarded as a distinct variety.

Mr. Ingram, nurseryman, Huntingdon, sent a Dessert Apple which possessed very respectable properties, but not of a sufficiently high character to recommend it as a desideratum.

Messrs. Veitch and Son, of Exeter, sent two Seedling Dessert Apples: one distinguished as Eggesford Seedling, No. 1, which is a handsome Apple, and sometimes assumes the appearance of *Adams' Pearmain*. It has a good flavour, but was not considered to possess any novelty in its character. The same opinion was given of Eggesford Seedling, No. 2.

Mr. Dickens, of Peterstow, near Ross, sent a Seedling Apple, which appeared to have all the properties of a good culinary variety.

Mr. Rivers, of Sawbridgeworth, brought several varieties of Pears; among which were some new, or little known, kinds. Delices de Lovenjoul, one of Van Mons' Seedlings, is a medium size Pear, very melting, juicy, and sugary, with a rich aromatic flavour. This was very excellent. Alexandre Lambre, which ought to have been good, was quite the reverse, being astringent, half-melting, and inferior in flavour. Princess Charlotte is evidently of the Passe Colmar race, and resembles that variety in shape; the specimens before the Meeting were firm and crisp in the flesh, and with a sugary juice. Beurre Gris d'Hiver Nouveau is large, and resembling the old Brown Beurré in colour. The flesh is very tender and melting, with a fine, brisk, picquant juice, sugary, and with a peculiar and rich aroma. Though not a new Pear, this is one which is not much cultivated; and it was suggested, that if its merits were better known, and its cultivation more extended, it would prove a good variety to grow for market purposes. Vicar of Winkfield was quite melting and sweet, with a pleasant aroma; these results being produced by the extreme heat of the past summer, otherwise it rarely acquires these properties.

Mr. Hill, of Keele Hall, Staffordshire, sent a good collection of Pears, most of which were beyond maturity; but there were some in excellent condition, such as Forelle, which though small, was perfect in flavour. Passe Colmar most delicious; but the old Crasanne, from a wall, was not so good as the specimens grown on standards; and Beurre Gris d'Hiver Nouveau was very inferior to the specimens of the same variety brought by Mr. Rivers.

There was a large collection of Apples, which it was agreed should be remitted to an adjourned Meeting to be appointed for the purpose of examining them.

It was proposed that some one conversant with fruits should be employed to prepare the reports of the Meetings, and have them expeditiously circulated among the members; but there being no one qualified to undertake the work, Mr. Hogg, at the request of the Meeting, agreed to do so *ad interim*.

WINTER FLOWERS.

I have, in former papers, adverted to the forcing of some things for the winter and spring decoration of the plant house or drawing-room; and I will proceed to point out some other little matters which, as accessories, are of some importance.

Salvias.—These are very important adjuncts of the plant-house in winter; indeed, I should say, indispensable. The best kinds for winter work that I have met with, are *S. splendens*, and *S. Gesneræflora*; the *S. fulgens* may also be added. For winter blossoming these are valuable, and their culture very simple. They should be propagated annually by cuttings in March, got speedily into small pots, and receive high culture in the greenhouse or a frame. In order to render them bushy, they must be frequently pinched; and, indeed, this pinching may be continued up to the end of July, when they may be allowed to form heads for blossoming. They may be flowered in seven-inch pots in perfection; although it is very convenient, for some purposes, to have a lot in five-inch pots also. By the middle of June they should be placed out of doors in cinder ashes in a very sunny situation, as they abhor shade; and all they require during the summer is regular watering. In the end of September, they should be placed in a cold frame for fear of frost, or, if room, on the front shelf of a greenhouse. No pinching may be allowed after this. A few remarks concerning soil are necessary. Most of the Salvia family run too much

to leaf, and are apt to become long-jointed. Now, the elements that conduce to this habit are, rich soils, too much air moisture, and a want of light. These evils, therefore, must be avoided. For compost, nothing is so good as a plain, strong loam; this, with sound drainage, will be found to grow them shorter-jointed, and more compact; and will enable them to withstand an hour or two of drought without suffering. In all their stages, they require full exposure to sunshine; and when approaching the blooming condition, simply a cool and an airy situation in the house.

Ageratums. — These are very useful as winter flowers; at least through November and December. They are best from cuttings struck in July: which, with proper cultivation, will become nice stock plants by the month of October. They must be frequently pinched, in order to render them bushy, and may be finally established in five and seven-inch pots. The stopping, or pinching, must cease after the beginning of September; and all they require after, is a cool situation on a greenhouse shelf, or in a frame.

Gesnera zebrina.—This is a stove plant of great beauty, much admired for its zebra-like foliage, as also its brilliant scarlet flowers. The plant sinks into a state of perfect rest after the manner of the Gloxinia family; and the dry roots must be taken out of the old and dry soil in March, and repotted. This plant requires a generous soil; one composed of equal parts of sound loam, old manure, a free peat, and some silver sand, will suit it well. The chief thing is to give it plenty of heat; few plants enjoy more. To grow it in high perfection, with vivid colouring, from 70° to 80° are necessary. Another point is, to allow it plenty of air moisture. Bottom heat is of great importance, too, especially in the earlier stages of its growth; 70° to 80° if possible. Most of this tribe enjoy a partial shade; or, at least, are averse to intense sunlight, which is apt to deface the foliage. All possible care should be taken at all times not to injure the latter; therefore, when moved, cautious handling is necessary. When in blossom they will do very well in the very warmest spot of a greenhouse, although an intermediate house would suit them better.

Cytisuses.—This family is well known as a most useful winter shrub; some kinds very fragrant, and being evergreens, they are particularly desirable. They are propagated with facility by cuttings in the spring. But these cuttings, with every appliance, will require a second season's growth to make them into nice little plants; or, in other words, to commence blooming fairly. They become annually finer, and, of course, larger; until, of course, in a few years they become too large and too coarse for ordinary purposes. Their soil may be two parts a sound loam, and one part peaty material. Their culture otherwise is very simple. They are essentially greenhouse plants, but will endure low temperature readily: absence of frost, however, is requisite. But to have them blossom through the winter, a little coaxing at the proper period is requisite. The best plan I have found out concerning them, is to treat them on a similar principle to such things as Camellias, viz., to force them into early growth, pinching away freely all the while; and after accomplishing this, to turn them out of doors, in a half-shady situation, at Midsummer; housing them again by the middle of September: this I say with regard to winter blossoming. But they must not be coddled; they must have a light situation, with a moderate temperature. Perhaps *C. racemosus* is one of the most useful; but there are several species so much approaching each other, that they are a little awkward to distinguish. I may add, that they are very useful for bouquets. R. Errington.

THE POLES.

(*Continued from p.* 130.)

Some years ago, this place could boast many of the finest specimens of Orchids in the country, as might be seen at the London exhibitions. They were parted with to make room for other things, chiefly Ferns, to which the north side of the square is principally devoted; and a magnificent appearance they presented.

I will first glance at a few of the finest specimens, and then merely enumerate a number of the most striking and attractive. Among the first I would specify a plant of *Asplenium nidus*, the bird's-nest Fern, from seven to eight feet in diameter, with fine healthy fronds, four feet long and nine inches broad. Two fine plants of the rather hardy tree Ferns from New Zealand, *Cyathea dealbata* and *C. medullaris*; the fine New Holland Fern, *Dicksonia antarctica*, four feet by seven feet; *Drynaria coronans*, four feet through; and a nice plant of *Drynaria quercifolia*, rather rare in collections. A fine plant of the *Didymochlæna pulcherrima*; a nice plant of the rare *Dictyoglossum crinitum*, the *Acrostichum crinitum* of some gardens; a beautiful plant of *Goniophlebium subauriculatum*, I think, with fronds fully six feet long; fine masses of *Platycerium grande, alcicorne, stemmaria*; a fine plant of *Pteris hirta*, and one of *Pteris scaberula*, two feet in diameter. A very large plant of *Polypodium aureum*; and a beautiful plant of *Cycas circinalis*, a good neighbour for fine-foliaged Ferns. If these were rather the most conspicuous, there were also fine specimens of Adiantums, of Cheilanthes, such as *hirta, micromera, tenuifolia, microphylla, spectabilis*, and *viscosa*; of *Cibotium Barometz*, and *Schiedei*; *Davallia polyantha, dissecta, ornata* (new), *elegans*, and *pulchella*; *Gymnogramma chrysophylla, pulchella, monstrosa, sulphurea, tartarea, lutea alba, Peruviana, rufa, Javanica*, &c.; *Gleichenia microphylla, spelunceæ*; *Nothoclæna Eckloniana, nivea, lanuginosa, Marantæ, vestita, trichomanoides, chrysophylla*; *Mohria thurifraga*; *Marattia cicutæfolia*, and many others; along with a great variety of Mosses too numerous to mention. All were in the highest state of luxuriance; and, independently of these kinds regularly sown, seedlings of all characters were appearing everywhere, where the spores could obtain moisture and shade.

In the stove was a nice plant of *Musa Cavendishii* in fruit. There, and in the houses at the kitchen garden, a good collection of all the most showy Orchids, including almost every variety of Vanda and Aërides, fine-grown masses of Billbergia, such as *thyrsoidea, iridifolia*, and the most beautiful of them all, *Morelliana*, with many beautiful stove plants, and Æschynanthus, &c., in hanging baskets.

Behind this square of houses, but concealed by them and the shrubbery, were low, narrow houses devoted to Ferns, Orchids, and greenhouse plants; also potting sheds and compost sheds; access to all which could be easily obtained from the yard of the offices, &c. And thus a fine combination was made of effectiveness, utility, room, and comfort, with nothing to strike the eye of the visitor but the effect as seen in the larger houses.

Wending our way to the kitchen garden, the walk being frequently broadly arched with climbing Roses, we pass through a rough piece of ground that may be called a pinetum, as here are congregated the most interesting varieties of Pinus, Abies, Picea, Cupressus, Taxodium, Araucaria, Juniperus, &c. The plants, as yet, are mostly young; but the greater part are growing vigorously. The grass was left rough and unmown, though the walks were kept in excellent order. This, ere long, will be a very striking feature in the place;

and might be made more so, if the ground were more diversified. We could hardly avoid envying Mr Hume in having so little to do with the scythe, and so little with bedding plants; flower-gardening and pleasure-ground-keeping being the most expensive of all gardening; and then giving nothing in return but pleasure to the eye.

The walled-in kitchen garden, divided also for the most part longitudinally by a wall in the centre, is not altogether very large; but, unlike Rob Rorrison's bonnet, its power of producing must be measured more by what is outside than inside of the walls. The large space round the garden has been planted with fruit trees in rows at wide intervals; and it would be impossible to see trees in a more healthy fruitful condition: and the wide spaces between them are appropriated to small fruit, and huge breadths of Potatoes, and winter vegetables. The trees on the nice walls are in excellent order—Pears particularly so; and there are some very fine large trees of the Moorpark Apricot, which this season were covered with fruit. Young pyramidal standard Pear trees occupy the borders on the sides of the walks opposite from the wall, and were full of fruit buds. Mr. Hume complained that his Peach trees suffered much from the black fly, &c., this season; but they retained few traces of it now.

The main range of houses is placed on the south side of the north wall of the garden. A new Peach house had been added two years ago or so; and two splendid trees, taken originally from the wall, filled the whole of the trellis that runs from top to bottom under the glass, with the exception of a short space at the top. Two fine riders also filled the back wall; but, ere long, they will have to be removed, if the fruit trees are allowed all the front surface room. The early Vines were pruned and cleaned. Their borders were covered with litter; *and that again kept dry with a tarpauling formed of old hop bags stitched together, and then painted with tar.* The late Grapes had not coloured to please Mr. Hume, though the bunches were good. The whole of these vineries are floored inside with broad paving tiles; thus giving them a very clean appearance, and furnishing many advantages in the way of dryness when of importance, as well as what may be obtained from the radiation of heat and the reflection of light. Where flower-gardening is a chief thing, you will find few houses like these empty. When forcing early, Mr. Hume covers these tiles with a layer of straw, and then places a large ridge of dung and leaves in the house, which greatly assists in breaking the Vines strongly.

In the Peach house referred to, and also in another new vinery at the west end, Mr. Hume has adopted a capital mode of fixing, or laying, his hot water pipes; and that is simply placing them on the floor, as near as possible on one level. I noticed a small air pipe at the extreme end; but I should imagine that at the highest point there was scarcely one inch difference from the lowest point so far as level was concerned. By this plan the pipes, as a whole, are more uniform in temperature than when the flows and returns are separated a considerable distance as respects level from each other. Hot water artists are quite right in insisting on plenty of piping, as you thus obtain the necessary temperature without making any of the pipes so hot as to vitiate the air of the house. But I have known four or more courses of pipes piled upon each other; and when the upper were so hot that you could not place your hand on them, the lower were scarcely warm; so much so, that the lower pipes were removed to heat another house without any detriment whatever. I believe that four pipes, under Mr. Hume's mode, would be as effectual as the eight were in their four courses piled upon each other. From their greater levelness, all the pipes would approximate each other more equally in temperature.

Behind the houses are very nice commodious sheds and offices; and behind them, the fine open space, to which I referred on entering, and where the Strawberry pots, &c., for forcing were placed in beds, Mr. Hume forces chiefly *Keen's*, *Queen's*, and Ingram's *Prince of Wales*. The plants spoke well of what they could do hereafter. Here are also situated different varieties of pits and boxes, all useful, and fully employed; also a beautiful range of neat houses, with hipped glass roofs at the back; the walk passing through near the middle, and slate platforms on both sides, unless there was a pit for plunging in on one side, and heated beneath. The top heating apparatus is situated close to the front wall below the platform; and there being ventilators in the front wall, the air is heated by passing over the pipes before it rises among the plants. One house was filled with *Dwarf Kidney* Beans. Another was devoted to nice young plants of Orchids, chiefly Aërides and Vandas; the *cœrulea* of the latter being in full bloom. Another division was devoted to Geraniums and other greenhouse plants, among which I noticed several large fine specimens of the variegated *Prince of Orange* Geranium.

Farther on still, is a large wide house, heated above and below, and appropriated to Cucumbers. There is a walk along the back; and the rest is a pit, in which two rows of Cucumbers were growing strongly in their respective hills, a strong plank being placed longitudinally between them for walking and examining the plants. The trellis on which they were trained was in detached pieces; so that it could be removed, cleaned, and fresh painted when necessary. The top sashes were whitened a little in summer. The lower sashes are furnished with light frames covered with *frigi domo*, that can be moved up and down almost with a touch, they are so light; and which serve for covering in winter, and shading in summer.

Behind these are two large span-roofed houses in the orchard style, some sixteen feet wide, and twenty to forty feet in length; roof all fixed—the ventilation being given entirely from the sides, and from large openings, when necessary, in both ends of the house. No more has ever been necessary. A single pipe goes round just to keep out frost when required. One house was filled with well-grown Azaleas; and the other had a number of Figs in pots; and ere long would be filled with Peaches, Nectarines, &c. The trees for this purpose looked remarkably well, and were standing fully half plunged. The surface soil had been picked off some time ago; and the roots were already working in the fresh surfacings. Mr. Hume disapproves not only of frequent shiftings; but he judges that wanting to do anything to the surface in spring will not only make the buds come weak, but be very apt to make them drop. When fresh surfaced early in autumn these evils are counteracted.

One recollection more. We have known people in great trouble how to keep their Onions. Here they were stringed in the usual manner, and tied to the walls of an open shed; and though water would run from them after a severe frost, they were not at all injured in consequence.

The extreme of neatness and high keeping was everywhere apparent; and I only regret that I cannot impart to my readers a tithe of the pleasure I experienced in this my first visit to the Poles.

R. Fish.

EFFECTS OF A MILD AUTUMN.

Beneficial in many points of view, as a mild autumn usually is, there are cases in which it perplexes the gardener. Summer-flowering plants, though divested of their flowers by the rains and continuous moisture, are still green, and, to a certain extent, ornamental, or thought too good to destroy, until the season is too far advanced to plant anything in their places with any chance of success.

A mild autumn, also causes all the Cabbage tribe to continue their growth in a succulent tender form; so that they are less able to bear severe weather when it sets in, as well as they would do, if they had been checked a few times with frost. One of the first to feel the effects of sharp frosts succeeding comparatively mild weather, are young Cauliflower plants, which, being often placed under glass, or other protected places, become as delicate and tender as greenhouse plants; fortunately it often happens that cold, dry, withering winds, precede severe frosts, hardening the plants, and gradually inuring them to what is to follow. But this is not always the case; and when sharp frosts suddenly set in, after such mild weather as we have lately had, plants suffer much; and to such extensive crops as that of Brocoli, there is no remedy, unless it be that of laying them down, which is a very good plan, in cold, bleak situations; but in the southern counties of England it is seldom done, so that the plants have to take their chance. Cauliflowers also suffer in like manner, only they do so much more when they have previously been injudiciously coddled too much under glass; therefore, by all means let them have all the exposure they can, at all times, except when it actually rains; and do not spoil them under the plea of trying to increase their size, as they may become weak. A small, sturdy plant will endure more cold than a gross, large one; and Cauliflowers often stand the winter without any protection at all, and become the best plants of the season. But, like most delicate plants, they do not like to be transplanted too late, those in the seed-bed being much the hardiest. Now, in order to harden those planted under hand-glasses and in frames, it is advisable to remove the glasses entirely on fine days, so that they may have all the side draughts as well as top air, that can be given them: this will partly stiffen the leaf-stalks, and also harden the leaf and whole plant. Should slugs or other enemies attack the plants, take the advantage of a dry day, and tread or flatten the ground pretty firmly around the plants, and scatter some wood ashes over the space, taking care not to let any get into the hearts of the plants; a loose, rough surface, though useful and beneficial in the growing season, is often a source of evil in winter, by harbouring so many enemies, in the shape of slugs, &c.; that I would advise, the ground on which rows of Peas, Cabbage plants, Lettuce, Endive, and other things are planted, to be made rather firm than otherwise; and lime, or other offensive matter, strewn over it from time to time as required. In severe weather this will not be wanted, as these enemies of vegetation are not so destructive then.

Where extensive plantations of Lettuces were made late in the autumn, the evils of mild weather are very serious, and often baffle all the efforts made to save the plants. But it is right to try: and when once sharp weather sets in, they are more safe than before; so much more destructive does mild weather prove than cold. A similar case is often exemplified in that of human life. "A Green Christmas makes a fat Churchyard," is an old saying, well verified by many recent cases; and though plants suffer from causes widely different, yet they are brought about by the same means.

In very exposed places, it is prudent to lay all the winter Brocoli on their sides; which is done by beginning at the west side of a plot, and with a spade taking a small spit of earth out on the west side of each plant, close to the collar; then, with the foot press the plant down until it leans in that direction, and lay the next row over that again, putting the spit of earth that comes from one plant on the top of the next, to keep it down. This plan prevents severe frosts from injuring the crown of the plants so much. It is also useful as checking undue growth; but, of course, it is only applicable to large plants.

Where cold pits or frames exist in sufficient quantity to shelter Endive, Lettuce, Celery, and other things, there is not so much difficulty in furnishing a good salad during winter; but there are many places where these useful appendages are not to be found. In such cases, homely contrivances of shelter will be found both useful and more readily constructed than may be thought of. Thatched hurdles will keep out much frost as well as wet, and they can easily be removed. Rough litter, loosely scattered over Celery, will also protect it in a great measure: only it is proper here to observe, than when this article becomes thoroughly blanched, no power can keep it very long in that condition; for it may then be said to have arrived at that state of ripeness after which all things begin to decay; and their progress that way is hastened, or retarded, according to the state of the year, or other circumstances; Celery, therefore, perfectly ripe and fit for table in November, will not keep until March; and is the more unlikely to do so if the weather be moist and mild. A similar case exists in Endive Lettuce, and other things. Onwards, onwards, is the order of the day: and whether that progress be in the direction of perfection or destruction; or the one after the other; it is one of those infallible laws which admit of no exception in their application to vegetation: only it is our duty to ward off the latter period as much as we can by prolonging the former; with which view, Celery for late spring use is not planted so early as the other, and does not arrive at that state of perfection, which is the turning point of its progress, until the season is so far advanced, that its uses have been duly acknowledged.

It is prudent not to let mild weather pass entirely away before securing a supply of such vegetables as are difficult to obtain in very sharp frosts. Any odd corner will do to lay in a quantity of Horseradish, Red Beet, Parsnip, Jerusalem Artichokes, and Celery; but Lettuces and Endive ought to have light. Brocolis and Cauliflowers will also keep some time, when cut with as much stalk and leaf as possible, and hung up in a cool place. Parsley ought to be treated the same as Lettuce; but Spinach ought to be protected where it is grown, if it be wanted in midwinter. Rows of Peas and Beans, just peeping through the ground, will endure much frost without injury; but winter Onions, Cabbage, and most other things, are, more or less, hurt by its intensity, or when acted on by other circumstances.

Whatever effects the ensuing winter may have on vegetation of a herbaceous kind, it is not likely to affect trees and shrubs so much as it does sometimes; and, I should think, those growing in dry situations, when they had ripened their wood well, would be in a position to stand the winter better than usual, deciduous trees especially; but all soft-wooded plants, by continuing their growth as late as they are tempted to do, will be more likely to perish than usual. Many of the ordinary bedding plants still continue to grow; and their progress during the last ten days (this being

the 23rd of November), has been more than it sometimes has been during the middle of summer. But such growths are useless, and can only tend to make them perish the quicker when that change to dry cold sets in, which we are all wishing for. J. Robson.

FLOWER GARDEN.

The newest discovery for the flower garden is the *Martinmas Daisies*, to come in just at the tail of the Michælmas Daisies, and to continue as long as they can, or as long as the frost and snow will let them. I have six kinds of Martinmas Daisies for the Experimental; cut flowers of which are now in water glasses before me, as fresh as ever, after being gathered just eighteen days. We shall then presume that Martinmas Daisies are good for cut flowers for the drawing room at the beginning of winter; and if the place be not too hot or too dry for them, they may be expected to last from a fortnight to three weeks, with occasional trimming and fresh additions. They are as hardy as Michælmas Daisies, and as easy to increase. They will do for flower-beds, after the bedding plants are up; or to stand all the season along the back of mixed borders, or the front of shrubberies. But the best place of all for them is the "block bank," the dell, the rock-garden, the wilderness, along the "green drives," and in all other places where natural scenery is attempted to be artificially imitated.

The best way of giving a proper idea of them, is to say they are very much like Cinerarias on a large scale; and "we" have the first six of them that have been let out. They are in the tenth or twelfth degree, in lineal descent, from the Chusan Daisy of Mr. Fortune, the parent of the Pompone race, and they are also the rarest of that tribe; but mere accident brought them under your notice so early in life. When I was nearly spent out at Mr. Salter's the other day, after getting all the "favours" I could for you, I asked for a particular favour for myself, namely, to be shown the secret of raising new Chrysanthemums and Pompones for my own amusement; raising and crossing seedlings having been my chief hobby for years. Now, I am in possession of the whole secret from beginning to end, and that end is the Martinmas Daisies; and they are the "selfs," singularities, and single-blossomed Pompones, with rays and disks far more diversified than among the Cinerarias. It will take ten thousand seedlings, in England, to make one good Pompone and six choice Martinmas Daisies: then, to get at my six, I must have looked over as many thousand seedlings; and so I did. And it was at my suggestion that the idea of preserving the cream of the "selfs" originated. I begged hard that a small selection should be made every season from the seed-beds, to be propagated and sold for a mere trifle, just enough to make it worth the trouble, but not sufficient to encourage a speculation on their behalf: and I named four shillings the dozen as the highest price; being satisfied that no gardener, in a large place, could lay out four shillings to more advantage. They are not suited for places of limited extent, and limited judgment, for disposing of pieces of ground after natural wildness. Ten or twelve years back I would have given my sleeve buttons for a collection of them for the "block bank" and the Swiss cottage at Shrubland Park. What could be more in character than large masses of them about the lake and river at Trentham, or about the rockery on the way to the large conservatory at Chatsworth? And they require no more culture than the common Asters we call Michælmas Daisies. Martinmas is the autumnal "term" in Scotland for changing many things, including farms and servants, paying debts, buying and selling stock, and a hundred other moves; and it is about the same time that these plants come into flower; therefore, to our Swan River Daisies, Chusan Daisy, and Michælmas Daisies, we now add Martinmas Daisies. Ask for stiff, erect kinds, which require no staking, and for the best and liveliest colours; and in a few more years, my word for it, we shall have them quite as gay as pot Cinerarias: but if we let the chance once slip, as we did with the Dahlia, it may never occur again.

The next move is made, but not yet proved. At the time of bedding out last May, we cleared a large border—an old mixed border—from all the spring flowers, except bulbs; and among the rest was a whole row of *herbaceous Pœonies*, just done flowering. No plants are more gay than they while in bloom, or more provokingly in the way of the bed-planter for the rest of the year. Their large, lumbering, heavy heads have no beauty; and to cut them off would ruin the flowering afterwards. But remove them with large balls, as we did in the Experimental; take them to an out-of-the-way border, and plant them just as deep as they stood in the flower border; give them a thorough soaking with water; and they will require no more looking after, even in such a season as that of last summer. They are just now showing strong, plump, prominent crimson buds for next year's growth; and they are to be removed to the old mixed border, shortly, as soon as it is thoroughly trenched; there to bloom again next May better than before; to be then removed as last season; and so on for a lifetime. But will they bloom next year? Yea, that they will: for the shift to a fresh border, that good soaking, and the mulching of cocoa-nut fibre made them grow and shine again in their leaves, so that they cannot fail to bloom strongly. Meantime their roots will take such a firm hold on the new-trenched soil, that their flowers will last longer than before.

By-the-by, how do they manage the borders for spring and mixed planting down in your part of the country? Here, about London, they go on the old plan of letting plants "alone" as long as they live; and when they die, they (the Londoners), say it is all owing to the smoke. But that is because they know no better; and their betters know that it is of little use to persuade them against a settled conviction. But to see their mixed borders in the spring of the year is enough to give one the "horrors:" they look like an archipelago of islands in the midst of a retiring sea. They have been and dug them, as they say: but such digging you never saw—just like scratching the surface, and getting as much mould as will cover the leaves they cut off. Then come the frost and rain, which settle the border, and the herbaceous plants look like so many islands, as I have just said, high and dry. The March winds, and the islands are, in a manner, scorched; the islanders all but starved, attempting to bloom later and later every succeeding season; till some new plants are heard of and tried instead, which do no better, but worse; and, you hear that all this is from the smoke nuisance. But, depend upon it, all is not gold that glitters; nor is it all the smoke which kills in these and similar borders. I have seen borders nearly as bad five hundred miles from the smoke of London. More than the half of it comes from reading books instead of periodicals. No man sits down to write a book on practice until he is half *daft* on the subject, or half bewildered for want of one. Burns says—

"Some books are leas frae end to end;"

and Beaton adds, some books on gardening are nearly as bad. One book says, you must not touch a branch to cut it off; another book, you must not touch a leaf

for the world; a third, that to cut a root is evidence of a deranged intellect; and so on through all the ramifications of the Oak, the Apple, the Cabbage, and the Brussels Sprouts, and all that comes between them. And amongst them all, how is young Philosophy to steer, but to reason from analogy, and say, what is right of one class of plants can surely not be wrong for a similar class of plants on the opposite side of the walk—say along the kitchen garden? But the truth is, every plant we cultivate, either for use or ornament, requires the ground to be thoroughly well dug, and occasionally to be trenched. The mixed border for flowers ought to be trenched more often than any border in the kitchen garden. And the end of the autumn is the best time for trenching it; as then no herbaceous plant will take hurt from being removed with a ball while the place for it is worked up; the roots will soon take hold of the fresh soil, and strike down deeply, and that will save it from the bad effects of smoke, or drying winds, and hot weather. Patches of bulbs are improved much by such handling. Take them up, divide them, if that be necessary, and reset them as soon as the places are ready for them.

Every herbaceous plant which blooms before the end of May, may then be removed to another place, with a ball, as our Pœonies were; and their places can be filled up, for the rest of the summer, with pot or bedding plants, or Stocks, China Asters, or anything for a change: but all bulbs, except Tulips and Hyacinths, may remain; and if they are marked with tallies, you might fill the whole border with pot plants, and avoid disturbing them. Spring is the best time to dig or trench a border, when the plants are to be divided; as then, every morsel with a root to it will grow away at once; whereas, many plants, and parts of plants, which are divided in the autumn, will perish from damp or frost before the growing season comes round.

The seedlings of new or superior kinds of Sweet Williams, Delphiniums, Columbines, and all other herbaceous plants, may, and should be, removed now to the borders where they are to flower; not, however, before the border is well worked, as aforesaid.

The next subject, for present use, is the beautiful fringes of *Fuchsia gracilis*, and the dense hedges of *Fuchsia Riccartonia*, you often read about, as being so fashionable in the fronts of evergreens in large gardens. But they are even more allowable in the smallest garden; and nothing looks better, or takes off more from the sameness of evergreens which come down to the grass, anywhere about the garden. The way to do them in the cheapest and most simple way, is to dig nine or ten inches in width all along, just under the outer branches of the Laurels, and all such: indeed, to trench this width eighteen or twenty inches deep, is the best plan; then to cut down all the *Fuchsia gracilis* and *Riccartonia* about the place, and to cut the branches into six-inch lengths for cuttings, before the frost takes them; then to plant them six inches apart in the trenched strip of ground; leaving only one inch of the cuttings above ground; then to cover that inch with some loose mulchings, sawdust, or sifted cinder ashes, which would do just as well as any thing from a muck pie, more for the sake of keeping the surface loose and porous, than against the frost. Not one out of a hundred of such Fuchsia cuttings ever fail, if properly put in and dressed off in this manner; and ten to one if they do not make a better edge, in half the time, than little plants from pot cuttings. We made many hundreds of such small cuttings for the Experimental last July and August, which are now closely stored in shallow boxes for the winter, in doors, ready to be made hedges of at the end of next April; but the frost having not yet (2nd of December) touched our Heliotropes, we had ample time, after storing the bedding plants, to look out for a double string to the bow; and the Fuchsia hedges are now being planted exactly as above, in every respect, save the mulching, which will be of the Cocoa-nut stuff; but I have often proved the plants to be most excellent and expeditious.

And now I will tell a story about roots making leaves, and leaves roots. Just about this time, 1831, or, say six and twenty years back, my head was so full of this doctrine from reading of it in books, that it was found necessary, on the part of a practical physiologist, to make me a little more practical also.

He made me dig a hole, ten or twelve inches deep, and as much across, where the roots of Elms, Oaks, and some other trees, made a felt near the surface. "Now my young man," says he, "you know the leaves are all down now." "Yes, Sir." "Well, then, they can make no more roots this season, at any rate." "No, Sir." "But the roots will be as active as they were six weeks back, nevertheless." "Will they, Sir? But who knows that?" "I do, for one," says he; "but I would rather convince you by the evidence of your senses, than argue the point with you. What do you say?" "Very well, Sir," says I; for what else could I say? "Now, fill that hole you have just made, with a fresh compost, such as you would pot plants with; and if we are spared, we shall open it at the turn of the new year. If you are right in your notion, every thing here will be as we leave it now; but, if not, this hole, or the compost in it, will be as full of fresh roots as if all the leaves were yet on the trees." "So be it, Sir: it is a cheap bargain anyhow." On opening the hole, early in January, it was one mass of tangled roots. And you might try the experiment now, and let us know if the philosophy of the thing is the same now as it was six and twenty years since.

But I have not done with the story yet. "Are you aware of the reason why the leaves fall in the autumn?" says he. "Not exactly, perhaps," says I; "but I have read about it." "Do you suppose they would fall if the weather were the same as last August?" "I suppose they must, as it is natural for them." "That is a dangerous explanation," says he. "Nature explains the reasons of natural laws; and we ought to fathom them. There must be a reason for the falling of a leaf. A leaf is fixed to the bark only; and that by an intricate, yet a very simple contrivance, after the manner of a hinge: and every leaf, in one sense, is its own. It furnishes the material which makes the shoot increase; and when this increase comes to a certain size, it unhinges the leaf, and it must fall, be it summer or autumn. If we call this increasing a force, a life, vitality, or any other name, it comes to the same thing. We can only know what it is by its effects; and the effects of life, &c., do not end with the fall of the leaves, as a man dies when the breath of life departs. Far from it: the effects go on for a considerable period, undiminished in some plants for certain periods; and, in others, very much diminished soon after the separation. It is only the severity of cold which will arrest the force completely, in temperate latitudes, and extreme drought in the tropics. Now that you know the effect of vatality, at least in the production of those new roots, since the fall of the leaf, will you ever afterwards maintain that a host of little secondary leaves on your *Esperione* is necessary to extend the roots after the old leaves are too dry to keep up the circulation, as you say?" "No, Sir."

"Well, next time we meet, the question to be discussed is this—Would the *Esperione* carry a better or a worse crop next year from having more or less, or no lateral leaves, after the fruit is ripe?" "Very well, Sir;" for what else could I say?

D. Beaton.

CALLISTEMON BRACHYANDRUM.

The seeds received from his Excellency, Captain Grey, said to have been collected on the north coast of Australia, in 1843.

A stiff bush, with the habit of other species of the genus, but with deep-green, narrow, pungent, channelled leaves, having conspicuous dots on the under side, and no veins. The spikes of flowers are loose, and not more than two inches long, with very downy calyxes, the number of whose divisions varies from five to six. The petals are dirty-white, short, downy, concave, and inconspicuous. The stamens are deep rich crimson, not more than twice as long as the petals, and quite straight; the anthers are of a bright golden yellow, and form a beautiful contrast. This shortness of the stamens is a striking feature in the species.

It is a small hardy greenhouse shrub, which grows freely in a mixture of sandy loam and peat. It is increased by cuttings of the young wood in the usual way, and flowers from August to November. It is handsome enough to deserve general cultivation.—(*Horticultural Society's Journal.*)

Callistemon Brachyandrum.

MEETING OF THE HORTICULTURAL SOCIETY OF LONDON.—Dec. 1.

This was an extra Meeting for the purpose of electing a large number of new Fellows, whose attention was drawn to the objects, purposes, and past and present history of the body, by a late circular from "we, the undersigned, the President, Vice-Presidents, Members of Council, and Officers of the Society."

This was a bold, and most judicious, step on the part of "we," and all the rest of them, for bringing grist to the mill: and "we," the new-blood members of progress, the amateurs, nurserymen, and gardeners, went at it with great good will, and genuine earnestness; first mixing all the samples together into one large heap, and then, with the old hand-mill—the balloting box—ground the whole down into ready-made Fellows of the Horticultural Society to the tune of *one hundred and eight*, without discovering a black sheep in the whole lot,—namely, five ladies, one Duke, five Earls, one Right Honourable, one Honourable, one Lord, seven Baronets, one General, four Captains, four Reverends, sixty-six Esquires, three Nurserymen, and three Gardeners, namely, Mr. Barnes, Bicton; Mr. Broome, Temple Gardens; and Mr. Francis, Botanic Garden, Adelaide, New South Wales.

Talk about the jolly gardeners! You ought to have seen "us," after all this work was over, in order to a right understanding of a *jollification* among gardeners. There you would see the Messrs. Bohn, the Messrs. Hodson, with Messrs. Charlwood, &c., busy as bees in a flower garden, congratulating the Society and each other; shaking hands over it; talking of the next meeting on the 15th inst., "to grind such another sample;" of the ensuing season, and the fashions at Chiswick Garden; of the wonders that never cease; of the next collector to get new plants and seeds for all this accession of fresh Members; of Mr. McEwen, and the right men in the right places. But "we," the gardeners, have done it all. As soon as we saw a man of our own choice at the head of affairs, we flocked in under the royal standard; we found we could compete together without acts of petty parliament to guide and control us; and we even meet in the best ball-room in London without a hole in our manners; and we told my lords, ladies, and gentlemen, our employers, it would "pay" well to be members now. The privileges alone were worth all the money, besides plants, seeds, cuttings, and grafts; to be allowed to send up for the names of all the fruit in one's garden; or, to order a collection of the best Pears and Apples, and other things, at the market value; to be studied at home by all the members of a family; would do an immense deal of good in a few years; and, with it all, to be in the fashion, and see the fashions, and all the fashionable moves in the Chiswick Garden, from the new fernery to the last bunch of Grapes which will astonish the natives, depend upon it. All these things, and "we" to boot, are worth a great deal more than one might think of at first sight.—D. Beaton.

CŒLIA MACROSTACHYA.

Received some years since from Mr. Hartweg, who collected it in Guatemala; and also from Mr. Skinner.

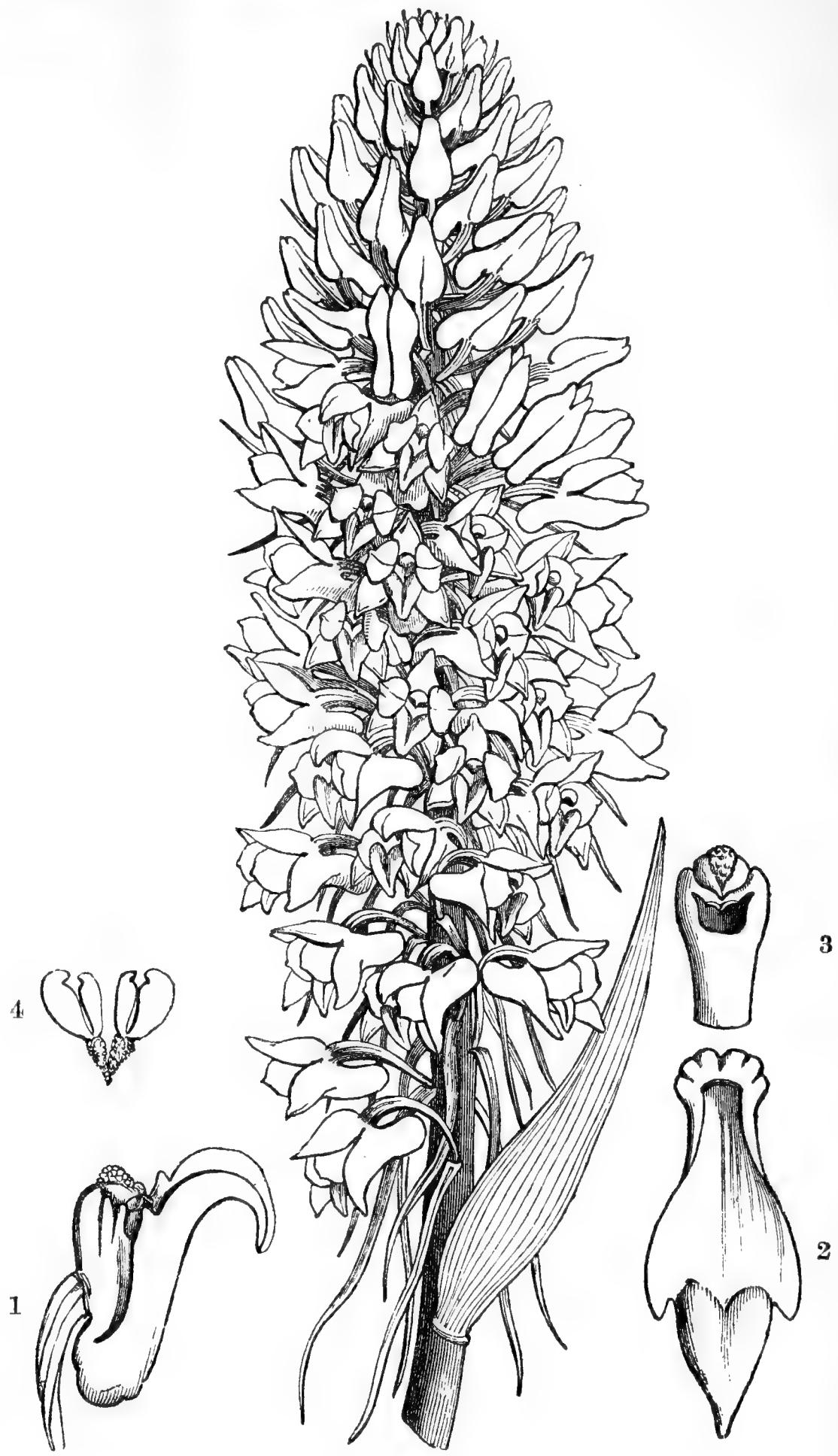
The expectations respecting the ornamental appearance of this plant have not been realised. It has been found in a wild state with a close flower-spike as much as a foot long, and its blossoms are reported to be deep red; but in cultivation it has hitherto gained no such size, and the colour is only a pale rose, without any brilliancy.

It produces ensiform leaves from one to one and a half inch broad, and nearly eighteen inches long; and the flower-spike should stand at nearly the same height. At the base of the spike are a few broad concave, lanceolate, brownish bracts; and mixed with the flowers themselves are many long, narrow, reflexed bracts, whose dull, pale-brown colour forms a disadvantageous contrast.

In the accompanying sketch a piece of the flower-spike is represented of the natural size, with some magnified details of the structure. 1, Shows the column and lip, seen from the side, the sepals and petals having been removed; 2, Is a view of the slipper-shaped lip, seen from above; 3, Is a front view of the column; and 4, the pollen masses.

It is best treated as the half terrestrial kinds are, and grown in rather a shady part of the house. It requires but little moisture or heat; and a light loose material to grow in.

It is a plant of little value.—(*Horticultural Society's Journal.*)



Cœlia macrostachya.

NOTES FROM THE CONTINENT.

No. 15.

PILNITZ.

About eight miles up the Elbe, from Dresden; a most delightful little trip by the steamboats that are ever plying; with a sloping hillside rising on the left, covered, first with pleasure gardens, and then, as we proceed, dotted with villas that peep out between the trees and little vineyards; and on our right, a campaign covered with fields of waving grain, and sprinkled with occasional villages; we come to Pilnitz. It is an old rambling town, of no great size; and would have little interest for us, except that by the river-side we find the palace which is the summer residence of the King of Saxony. Several hills rise abrutly behind the palace, and the town; the principal one, standing more forward, starting up more abruptly, and frowning more darkly than the others, is named the Porsberg. It is rather more than 1100 feet high, and from its summit a prospect, extending from Dresden on the one hand, to the rocky eminences of Saxon Switzerland on the other, spreads itself before the spectator. The palace, which is in the form of a large quadrangle, enclosing a large flower garden, was built in 1818. It is decorated in the Chinese style; with what degree of taste it is not my business to decide. The pleasure grounds are extensive and pretty, though with no features worthy of remark; except that in one case, I saw a large group of shrubs, which, I was sure, could not grow there unprotected. They consisted of *Laurus sassafras*, *Althæa frutex*, *Sterculia platanifolia*, *Brugmansia*, Figs, the *Cork Oak*, the Camphor tree, Portugal Laurel, and some very large Camellias. I found upon inquiry, that a wooden house is erected over them in winter, having a few lights inserted at intervals in the sides and roof. A small furnace is erected in one corner, and an earthenware pipe flue carried round the building. As the lights are, during hard weather, covered with thick straw mats, this flue is found sufficient to keep out the frost. Shelves carried round the house are found convenient for the wintering of Scarlet Geraniums, Fuchsias, Hydrangeas, and such other things as can be kept nearly or quite dry. Leaving this behind us, we passed through a little valley, where we found a beautiful sheet of water well supplied with enormous carp: these fish are very tame, and the feeding of them is a favourite amusement with the King. Weeping Willows droop over the water, and are backed by some noble copper beeches; while at one end stands a classical summer-house of white marble, with a gilt dome. Before reaching the plant-houses, we passed through the bowling green, which was formerly the playground of the young Princes; and the little gardens which they cultivated are still kept in the same way as their childish fancy had planted them:—a bed of Strawberries and Raspberries, alternating with beds of flowers.

There is a considerable number of old-fashioned, lean-to houses; the occupants of all, except the stoves, were, of course, placed out of doors. The plants were just such as one might expect to find in a botanic garden, where the curator's ideas

tend towards "collection, not selection;" the catalogue of them formed quite a large volume. Many of the plants had no recommendation either in the way of beauty or utility; nor were they even curious—nothing, in fact, but foreign weeds with long names. But at the same time there were many examples of the fine old Banksias, and other New Holland plants, which, really deserving of cultivation, are now becoming rare, and many of them even extinct in our English gardens. The old stove, which is about thirty-five feet high, was crowded with plants, among them large examples of *Pandanus utilis*, *Carissa*, *Passaya*, &c. The flower garden, some 300 feet square, is laid out in the old mixed style; some of the beds being filled with herbaceous plants, and some with a mixture of these with the usual bedding plants.

On the way back to Dresden, I called in at the new villa of Prince Albert, of Prussia, which is said to have a good garden attached to it; but was disappointed in not finding the gardener at home; and the porter had strict orders not to admit any one during his absence. I visited several of the nurseries in Dresden, and found them principally devoted to Camellias and Azaleas; these they could supply by the thousand.—Karl.

REMEMBRANCES OF AN HOUR IN THE GROUNDS OF WENTWORTH, THE SEAT OF EARL FITZWILLIAM.

I had laid aside these notes with the view of giving the grounds a thorough inspection before attempting their description; but, as I am not likely to see them again for a long time, and as the late proprietor, who was not only noble by name, but also in heart, has lately been carried to the grave at almost the very hour when he had invited, and expected a visit from, his Queen, they may not be out of place in a corner of The Cottage Gardener. Besides, I have just been reading the very interesting account of Shrubland Park by my old worthy friend, Mr. Fish; and methinks your readers will be none the worse for something a little more subdued after our friend's account of his wanderings through golden doors, viewing avenues of vases filled with flowers of all hues, and vieing with the Crystal Palace itself.

The railway station for Wentworth is Masborough, in Yorkshire, about five miles from Sheffield, fourteen from Doncaster, and one mile from Rotherham, which, if you drive, you must go through; and this makes the distance somewhat about five miles to the mansion, for which a Yorkshire cabby boldy asked 7*s.* 6*d.* to take me there; and if I stopped longer than an hour, he should expect more. However, anyone that can walk, will be able to get there by going across the fields in a little more than than three miles. Masborough village is certainly not remarkable for neatness; though, judging by the ladies and children at the doors, there is an easy do-as-you-like style about them, that requires no seer to see that, if left alone, they are happy enough.

After passing through a field or two, and some well-cultivated allotment gardens, you reach the village of Greasborough, which is pleasantly situated on the side of a hill. Here you enter the spacious domains of Wentworth. The entrance itself has no pretensions to grandeur, and forms a great contrast in this way to many places I could name, both in Scotland and England, where the entrance eclipses everything else. Indeed, I have seen this example followed by the cottagers in keeping the outside stone at the door nicely washed and sanded, when, if you open the door, all is out of order. Although the entrance itself is not striking to a stranger, yet, on entering, he soon finds he is not in common grounds. Before him is a hill, covered with fine wood, surmounted by a splendid pillar some 130 feet in height, erected by Charles, second Marquis of Rockingham, to commemorate the acquittal of Admiral Keppel by a court martial. This hill, and the one you are passing down, forms a splendid valley; but, unfortunately for the admirers of sweeping breadths of grass and fine undulating valley, the whole, from where you are, down to the brook, is cut into small paddocks by hedgerow timber and hedges. Methought, had I had a magic wand, I would have given it a passing sweep, and left only here and there a few of the best of the trees and thorns from where I stood down to the brook. Secondly, I would have cleared the trees on the opposite hill some 150 feet to 200 feet in width from the brook up over the hill, leaving this noble pillar clear to the base; and lastly, have dammed up the brook itself, and given it the look of a respectable river.

The road sends you down along the same side of the valley, at the bottom of which you cross the brook by a plain bridge. After passing the bridge, the road ascends a little; and the next point of attraction is an arch, which, no doubt, astonishes the locals; though to those who have seen good things in this way, it is really meagre enough; and, with the exception of being useful as a cottage and an entrance to the park, a stranger can hardly conceive the mimicry of erecting it in such a situation; for, on looking round, it appears to be placed in the midst of paddocks; yet, to the eye of those who are conversant with such places, there is at this spot an unmistakeable stamp of its belonging to the good old English gentleman about it. The road is plain and substantial; and, what I should suppose, is not to be found at Shrubland, and other places famed for order and neatness—a good display of footpaths in all directions, without any evidence of traps ever having been thought of to prostrate trespassers. The gate was also open; but more of this anon. On going on a little further you pass through another gate, and, I suppose, enter a sort of inner park; for here the timber is of much older date, and very fine, with large quantities of healthy young trees and underwood. In fact, the place is overgrown with wood, and requires a thorough dressing by some one who has a good eye for breadth of outline, and unfettered by the trammels of old associations, which are attached to all old places.

As you pass along, on looking to the left, the eye is attracted to a splendid mausoleum, erected on the hill by the present Earl Fitzwilliam's grandfather, to the memory of Charles, second Marquis of Rockingham. It is an elegant structure of three different orders of architecture. The base is a square building in the Doric style, containing a full length statue of the Marquis by the celebrated Nollekens; and in niches round the apartment are busts of Burke, Cavendish, Saville, and others, his contemporaries and friends. The second story, diminishing in size, is Corinthian, with a sarcophagus in the centre. The third story is composed of a circular row of Composite pillars, supporting a dome. The height is about forty-six feet.

As you pass on, another monument makes its appearance on the hill on the left in the shape of a triagonal pyramid, erected by the first Marquis of Rockingham to commemorate the close of the rebellion in Scotland, in 1745, which is eighty-four feet in height. These three monuments are, in my opinion, splendidly placed, and form appropriate and noble objects in such grounds as these.

About a mile from the entrance you have the first view of the house, which, with the extended front of 660 feet in length, its magnificent Corinthian portico in the centre, and its towers at each end, is truly princely. Yet one feels sorry that the first Marquis of Rockingham who built, and Fletcroft who designed, such a noble pile, had not the good taste to have placed it in a better situation. For, however grand and striking is the first view of the building, yet it hardly requires a second look to see that it is badly placed. It is, in fact, apparently in the bottom of a bason, as the ground rises all round it.

Though I had been walking against time, as it was September, and five o'clock, P.M., when I got there, and therefore no time to spare, as I wanted to see the garden that night; still I could not resist standing still, and contemplating the scene before me, which reminded me of Johnson's "Rasselas," though I saw no princesses in the happy valley, the family not being at the place; still here was a goodly assemblage of the other sex amusing themselves on the spacious lawn in front of the house with the good, old, healthy English game of cricket; and besides, I knew there was the village of Wentworth near; where, if they were not happy, it was not the fault of their two late lords, who were second to none in administering to the wants of their less fortunate fellow-creatures; and, I believe, for now more than a century no one has asked for bread at this good old establishment and been sent off wanting. I need hardly say the interior of the house fully realises what the exterior holds out; and that it contains spacious suites of show-rooms worthy of the name, with a

chapel and all other necessary accompaniments to such a huge establishment. Now for the gardener and the gardens. —D. FERGUSON.

(*To be continued.*)

SABBATIA CAMPESTRIS.

IN THE COTTAGE GARDENER of the 24th inst., we observe a slightly incorrect statement regarding the *Sabbatia campestris*. Under the heading of "New and Rare Plants," it is stated to have been first imported by Mr. W. Thompson, of Ipswich, whereas, *we* received it from our Texian Correspondent in the years 1851-2, together with the beautiful variety of Lupin, known as *Lupinus subcarnosus*. We believe that both these seeds were introduced into this country, *first*, by Mr. James Drummond, the celebrated botanist, about the year 1836. Your kind attention to this will greatly oblige.—JAMES CARTER and Co., 238, *High Holborn*.

[The mistake is not ours, but Sir W. Hooker's. He says, this *Sabbatia* is "little known even in its native countries, Arkansas and the Red River (where it was first detected by the venerable Nuttall), New Orleans and Texas (where it was discovered by Mr. James Drummond). Lindheimer also found it in Texas, in 1843; and it is No. 120 of fas. 1, of his "Flora Texana." We owe the introduction of this pretty annual to Mr. W. Thompson, of Ipswich, through a correspondent in Germany in 1855."—ED. C. G.]

STORIFYING *versus* COLLATERAL HIVES.

IF Mr. M'Lellan thinks the Collateral Hive superior to the Storifying one, I hope he will not object to a trial of the two hives, by accepting a friendly challenge to test their merits next season, side by side; which, I think, can be done very easily, by meeting halfway, either at Mullinsham Inn, or any other place he may name, and I will make arrangements with him, either by way of letter, or through the pages of THE COTTAGE GARDENER, as to time and place of meeting. Now, if Mr. M'Lellan wishes to see the Storifying Hive managed on the Stewarton system, he will never have a better opportunity, and I may say, will have no cause to regret his trouble; as, very probably, I shall have a person in the trams of my handbarrow who will be able to give him more information on the practical management of the honey bee, than all the books he has read on their management.—ALEX. FERGUSON, *Stewarton*.

[It is curious that rural bee-keepers cannot always mix honey with their ink, but write sometimes as if with a sting. —ED. C. G.]

CATALPA SEEDING.

I AM not aware of the Catalpa having ever ripened its seeds in England, and I know it is but seldom that it produces any; but, this year, a tree in the grounds here has upon it a great number of seed-pods of a peculiar construction, which, I fear, will not ripen; but I do not remember ever seeing any such before; and from the construction of the flower (a loose, open raceme), I should not have expected such a seed-vessel to follow as the one that has done so. The soil the tree grows on is a dry, stony one; and, no doubt, its wood is well ripened each autumn; as, at the present time, its leaves are all fallen, although the seed-vessels still retain their hold. I may add, that the tree is an open standard, not very large, but prolific in flowers; and at the season when it is out, it certainly is the handsomest of all our flowering trees or shrubs, not even excepting the *Althæa frutex*. The seed-vessel is a long, cylinder-shaped pod, with no perceptible marking where it opens; and being, generally, perfectly straight, from six inches to a foot long, very much resembles a black-lead pencil, being about that thickness.

I find some young trees have also seed-pods on them, as well as the larger one in question; and I have no doubt but many things will have perfected their seeds this year, which only occasionally do so; but I do not expect the Catalpa to accomplish this, as the late period at which it flowers leaves little hopes of its being done in England.—J. ROBSON.

TO CORRESPONDENTS.

ACACIA LOPHANTHA, &c. (*Pitsford*).—Moving those plants "from a cold greenhouse," without any preparation, into "a very warm close stove," was the cause of their leaves dying and looking "as if scorched." Plants cannot be subjected with impunity to sudden and violent transitions of temperature. They must be gradually subjected to a higher or lower temperature, as the case may require.

SEA-KALE AND RHUBARB FORCING (*X. Y. Z.*).—If you refer to p. 16, No. 472, of the present volume, you will find directions for forcing Sea-kale; and the same are applicable to Rhubarb. If you need fuller directions, buy our "Kitchen Gardening for the Many."

TURF OVER-SALTED (*J. J. B.*).—Though turned brown it will probably revive. You say you gave the turf "a pickling;" which reminds us of another wise man, who, to manure his Potatoes, filled the dibble holes with salt after putting in the sets; they, therefore, had "a pickling." Three pounds of salt on thirty square yards would have been enough for your lawn, repeated once a week, in wet weather. Keep your bedding-out stuff in greenhouse, at from 40° to 45°.

ORCHARD ON GRAVELLY SUBSOIL (*B. Moseley*).—We have an orchard, from which we cut the grass two or three times annually; but the trees do not canker, and "occasionally die down," as they do in your orchard. When we planted, we spread out all the roots horizontally, cutting away all that bent obstinately downwards. Since then, we have manured the whole surface twice annually with liquid manure, so as to keep the surface rich, and thus tempt the roots upwards. Your trees have rooted into the gravel.

NAMES OF PLANTS (*Angus Mc Leod*).—We think, but are not certain, that No. 1 is a variation of *Adiantum pubescens*. No. 2 is *Lycopodium stoloniferum*. Send us a specimen of No. 1, with fructification on it. (*W. C.*).—*Pilea muscosa*, or Artillery Plant. The aphis was crushed; but tobacco fumigation will destroy it on your plants. (*John Young*). —Your plant is *Polygonum complexum*. (*W. W. W.*).—Yours is *Zauschneria Californica*. (*J. Farnsworth*).—Your plant, as you surmise, belongs to the Natural Order of Nightshades, and is allied to Cestrum. It is *Habrothamnus elegans*.

VARIOUS (*Alpha*).—Give the brick front of the house two coatings of linseed oil, without any addition. It is excellent *weather-proofing*. Do not dig in *guano* and *phosphate of lime* until the spring. Time and exposure to the air will remove the smell of gas tar. We cannot advise about the gas lime without more particulars.

GAS-LIGHT IN GREENHOUSE (*Stephens*).—If you have a funnel and escape-pipe to carry into the open air the gases produced by the light, no injury will occur to your plants from them. Keep your light enclosed in an iron case; illuminating plants at night does them harm. Such case, also, will insure the gases going up the escape-pipe.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DECEMBER 8th and 9th. CREWE. *Secs.*, S. Sheppard and D. Margetts, Esqrs. Entries close November 26th.

DECEMBER 16th and 17th. NOTTINGHAMSHIRE. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

DECEMBER 30th and 31st. BURNLEY and EAST LANCASHIRE. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

JANUARY 1st, 1858. PAISLEY. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

JANUARY 4th, 1858. KIRKCALDY. Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

JANUARY 9th, 11th, 12th and 13th, 1858. CRYSTAL PALACE. *Sec.*, Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th, 1858. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs. Entries close Dec. 19th.

FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

BIRMINGHAM POULTRY EXHIBITION.

"THE ninth great annual Exhibition." So runs the programme of our present subject. It may well be called "great," for it is so in reality. The additions have been gradual: first, a few pigs, and a little poultry; then, more pigs and more poultry; then cattle and sheep; and then roots being added have made up the present Exhibition.

The poultry belongs to us. It has often occurred to us to ask ourselves, How many pens would have been shown if no restriction had been placed on the entries, and if the mere payment of so many shillings per pen would enable an exhibitor to send as many as he liked? In the early days of Poultry Shows it was not an uncommon thing for one person to send forty pens; and we have ourselves seen twelve in one class, all the property of the same owner. Now, with the necessity of being a subscriber, and being limited to four pens, the numbers to compete are 1299, exclusive of Pigeons; but for these arrangements the poultry would have required half the hall. While we rejoice at the support this Ex-

hibition meets with, we are compelled to admit the Council deserves it all; and that no measure of support, or success, is too great for their constant endeavours to deserve it, or for the high principle that guides them in all their transactions. This history of this annual Show is the history of poultry competition throughout the kingdom; and it has given the law to every Society that has since been formed. The trifling alterations that have been made in their rules and regulations since they were first compiled will show the wisdom and knowledge of the subject that were brought to bear upon it at first; and the changes in the prize list bear testimony to their desire to meet every reasonable requirement, whether of exhibitor or purchaser.

Thus, when it was found to be most inconvenient to divide pens, they at once came forward with classes for single cocks; and they have this year, in the two principal ones, instituted fresh prizes for the three best hens, and three best pullets.

Here, again, the various classes, from the manner in which the Judges were always requested to award the prizes, enabled those who possessed any meritorious novelty to send their birds in sufficient numbers to entitle them to a separate award. Their claims were always admitted. Brahma Pootras, Black and White Cochins, all sprung from this. But all their claims are cast into the shade by their enterprise and confidence in building Bingley Hall for the purpose of the annual Show. Everyone has seen it; and, therefore, no description is necessary. Let it suffice to say, that it is perfect for its purpose; no expense is spared; everything is ensured against fire during the Show—watchmen are there throughout the night; and the food provided for the poultry and animals, would suggest the idea of a place being provisioned in expectation of a siege. We make these remarks because many who visit it, take a great interest in its welfare, and derive no small pleasure from it, have not the least idea of the labour, expense, and responsibility required in getting up the four days' Show at Bingley Hall.

We hardly know how to enter on a discussion of the marvellous Show that it presented in this year of Grace, 1857. There were more than 1300 pens. *Golden-pencilled Hamburghs* began with an adult class of ten entries. Even in this small class there was difficulty in decision. Messrs. Worrall, Whittington, and Alkin, were the fortunate in order. Next were forty-five pens of chickens; and many of these were unusually meritorious. Mr. Chune was the winner of the cup; Messrs. Fell and Dixon, no mean names in this class, were second and third. Many of these pens were very near to perfection. The old *Silver-pencilled* were moulting and in bad feather; they brought but seven pens into competition, and do not call for especial mention. The chickens made amends. There were twenty-five beautiful pens, and they furnished another and a great triumph to a breeder already celebrated, Mr. Archer, of Malvern. This gentleman took the Cup, and all the prizes. It will be seen throughout, that, although the time of year is favourable to old birds, yet in every class, the entries are far more numerous in the chickens. It was so in the *Silver-spangled*; but here the old birds proved their superiority over their younger competitors, by taking a Cup for Mr. Teebay. The names of Chune and Dixon will be expected to appear; and they did so, taking second and third. The Rev. T. L. Fellowes was first prize-taker in the chicken class. The tails of these birds are improving; inasmuch as there are now many with perfect tails, being white tipped with black; but there would seem to be a limit to excellence: and the lacing of the wings, and the marking of the hackle are in many cases deficient. It must not, however, be supposed that we speak in any other than terms of commendation of these classes. We cannot give all names in full; but the fact that forty-nine Hamburgh pens appear in the the prize list, will speak for their merits.

The *Black Polands* with white tops were hardly so good as we have seen at this Exhibition. They were well and honestly shown, but their top-knots were not firm and compact. Mr. Battye took the Cup; the other honours went to Messrs. Conyers, Ray, Edwards, and Fox.

The other Polands will introduce us to a long series of successes of Mr. Greenall. We shall note them in due course; but it should be impressed on exhibitors in these classes that a crooked bird will disqualify any pen, however good it may be in other respects.

It is not usual for the *Golden Polands* to distance their *Silver* competitors; but they did so in this instance. For the first time during the last two or three years, we have to chronicle more improvement in the former than the latter. The prizes for the black birds with white tops, went to Messrs. Conyers, Batty, Atkins, Edwards, Ray, and Fox; while the piece of plate, and five prizes, four of them first prizes, went to Mr. J. Greenall, junr. We have seldom to mention such success as this; and that it was not an easy triumph may be inferred from the fact, that there were sixty-two entries, comprising all the good exhibitors. Mr. Parkins Jones and Mr. W. Dawson, also took first prizes. We were glad to see that some birds belonging to Mr. Williams, of Dublin, also appear highly placed in the prize list.

The *Spanish* classes introduce many new names; and others who have been absent for years re-appear in the competition. Of the three classes of these birds, one was declared excellent, another meritorious and useful, and the third unusually good. We could but carry our recollection back to the time, when a *little red* over the eye was easily excused, and when the absence of upright combs made a falling one almost correct. *Now*, any deviation from the standard of perfection is fatal to success. The different classes of this breed, induced 77 entries. The best pen shown was, beyond a doubt, that belonging to Mr. Fowler. This deservedly had the piece of plate offered for the most meritorious birds in the class. The closest competitors were Mr. Busst's adults, and Mr. Rodbard's chickens; Mr. Rake's chickens were beautiful, but they lacked age; and we know no breed in which this is so essential to the development of the merits of a bird, as in Spanish pullets. Those shown prove the truth of an old assertion, that it is easier to get twenty perfect cocks, than five pullets, or hens. Mrs. Stow and Miss Rake, showed good birds; and so did Messrs. Brundrit and Nelson. In this, as in several other classes we shall have to name, the number of highly commendatory mentions the Judges were compelled to append to deserving pens, must satisfy exhibitors that their birds were not only very meritorious, but that they were so near to success, that there is every encouragement to persevere with a good hope of attaining, another year, the position that excites envy now.

Dorkings then contributed 165 pens. On perusing the list of exhibitors in this class, no one can fail to be struck with the number of the aristocracy who are competitors. These were among the best classes we have ever seen; and whether we consider the birds as chosen for weight, symmetry, or colour, we are compelled to say, that, had there been five times as many prizes, they might have been worthily awarded. It is almost a thankless task to undertake to name the most deserving, where so many were meritorious; but we cannot avoid especial mention to the adult birds of Captain Hornby, the winners of the Dorking piece of plate: they seem almost to have attained the utmost limit of excellence.

It is also necessary to speak in the highest terms of the birds shown by the Rev. S. Donne, the Honble. W. W. Vernon, Mr. Wakefield, and Mr. Horrocks. It is a great tribute to the excellence of those belonging to Lady Sophia Desvœux, Lord Hill, the Rev. John Hill, and Messrs. Lister, Popham, and Botham, that all their birds were either Highly Commended or Commended. The classes for hens and pullets alone were very interesting; Mrs. Handbury, and Messrs. Smith and Ullock deserved their success.

Mr. Allsopp took three out of four prizes for *White Dorkings;* Mrs. Farmer, and Captain Beardmore were well placed in this improving class. The *Cochin Chinas* were very good, but they did not present the general excellence we have had to note in the last two breeds. The Silver Plate pen belonging to Mrs. H. Fookes was beautiful, especially the pullets, which were better than the cock. The Duchess of Sutherland, the Reverends G. Gilbert and Stephen Donne, and Mr. Stretch, are, however, an exception to the remark we have just made; and the first prize adults, when in perfect feather, must be an unusually good pen. We want to see these bred as carefully as they used to be.

The entries of *Brown* and *Partridge* were numerous, and quite of average merit; Mr. Peploe Cartwright took both the first prizes; Mr. Brutton Ford a second and third; Mr. Busst a second; and Mrs. Hodson, third. We think there is more care taken in breeding these than the Buffs. There

were, nevertheless, two pens in which the hackles of the cocks were of a dingy cuckoo colour. Mr. Fowler's star suffered total eclipse in *White Cochins;* and the prize list is guiltless of his name. Messrs. Chase and Peters, with Mrs. Herbert were the distinguished; and the purity and condition of their birds deserved it.

The *Black Cochin Chinas* made a sorry display; and three out of four prizes were withheld. The entries for old *Brahma Pootras* were very small; but the chickens were excellent, and both prizes fell to the lot of Mr. Teebay.

Fifty-one single *Dorking Cocks* competed for three prizes. It is difficult to describe the merits of these birds. Mr. Gilbert Moss, of Liverpool, was first; Captain Hornby, second; and the Countess of Chesterfield, third. Ten were Highly Commended; and five Commended. There was such competition in this class, as has seldom been seen.

Almost the same may be said of the *Spanish.* Master Rake, Mrs. Teebay, and Mrs. Dain enjoyed the well-earned honours; and such names as Botham and Rodbard, were obliged to be content with High Commendations. Mr. Manfield, of Dorchester, and Mr. Stretch, of Liverpool, were first and second for *Cochin* cocks. The latter, a chicken of 1857, is a remarkably good bird. The *Brahma Pootra* cocks showed some very handsome and heavy birds. The *Golden-pencilled Hamburgh* cocks were numerous, and many of them were perfect. The same may be said of all the single cock *Hamburgh* classes; if we except the Silver-spangled, which was weak. The names of Hawksley, Chune, Fellowes, Archer, and Bamforth, will be a guarantee for the truth of our assertion. There were beautiful birds among the *Polands,* especially that belonging to Lady Guernsey; but here, as in the general competition, there were crooked birds.

However desirous we may be to do full justice to every class, it is impossible to speak in other than general terms of one that numbered 286 entries. We allude to the *Game.* Seventy pens called for prizes and especial mention; every feather was well represented, and every division showed many perfect specimens. Among these may be especially mentioned those belonging to Baron Rothschild, Mr. Swann, piece of plate; Messrs. Strange, Vernon, Abraham, and Peters. Mr. Johnson, although not a prize taker, deservedly figured everywhere in commendations; Mr. Moss, of Liverpool, did the same; also Mr. Arnold, of Coventry; Mr. Bentley, of Wellington; and Mr. Theed Pearse, of Bedford.

The *Malays* were good and numerous as usual. Mr. J. J. Fox continued his successful career in one of two classes, both pronounced excellent; and Mr. Attwater may boast of beating Mr. Manfield.

With the liberality that is characteristic of the Council of this Show, the Judges were requested to award the prizes in the various classes, according to the merits of distinct breeds; and thus in Class 47, they awarded nine prizes to *Black Hamburghs, Cuckoos, Andalusians,* and other meritorious breeds.

We will begin our notice of the *Bantam* classes, with that which the Judges appended to the end of it:—"The Judges award one general High Commendation to all the Bantam Classes. They cannot speak too highly of the Game Bantams." There were seventy-six pens shown; and the weakest class was, as usual, the Silver-laced.

The *Golden* were excellent; and the first prize pen belonging to the Rev. Mr. Masters, took the silver plate. Miss Russell who took it last year, running them hard, and taking the second prize. Our report is already so extended, we must pass over these and the Black and White classes, with the remark that those who peruse the prize list will not find any bird there mentioned, that did not richly deserve the distinction. The merit of the Game Bantams was such, that we must speak of them more at length. There were sixteen pens; every one was good, and many were perfect. Mr. Colvile had the piece of plate; Mr. Forrest was second. It was a positive hardship to give only a High Commendation to such birds as those shown by Lord Berwick.

We cannot do better than give the weights of the *Geese.* The old birds weighed 57, 54, and 53 lbs.; the young, 72, 71, and 70 lbs.; there was one gander weighing 28 lbs. The *Aylesbury Ducks* were excellent; but no pen attained the weight that Mr. Davis accomplished a few years since. The heaviest pen weighed but 29 lbs.; the second, 28 lbs.; and the third, 27½ lbs. It is but fair to say, that many were large enough to have weighed more. The *Rouens* were more numerous than their predecessors; but their owners do not breed them as successfully in making weight. The prize birds weighed only six pounds each.

These figures, while they show a great increase as compared with former years, do not come up to what we have seen. It must however, be recollected, that these were faultless in feather, bill, and condition, and many pens lacking one or other of these qualities, were considerably heavier. We must ask for a separate class for *Buenos Ayrean* Ducks, in 1858. Their numbers, quality, and real usefulness, entitle them to it.

The *Turkies* were worthy of Birmingham. Mr. Brand was successful in both classes; his old birds weighed 63 lbs.; and young ones 55 lbs.

We are now compelled to close this report. We shall, next week, give more detail. Let us, however, heartily thank the Council for their unselfish efforts. It should never be forgotten that there is no pecuniary interest to be derived from this great Show, be it ever so successful; and if men, who *work* for the public good, deserve the thanks and acknowledgements which are the only rewards, to which they aspire, then to Messrs. Wright, Shackel, Luckcock, Matthews, J. Lowe, Mapplebeck, James, Jennens, Adkins, and others, is due the fullest meed of them.

JUDGES OF POULTRY.—The Rev. R. Pulleine, the Rectory, Kirby Wiske, near Thirsk; G. J. Andrews, Esq., Dorchester; Mr. J. Baily, Mount Street, Grosvenor Square, London; Mr. E. Hewitt, Eden Cottage, Sparkbrook, near Birmingham; and Mr. T. Challoner, Burnt Leys, Whitwell, near Worksop.

JUDGES OF PIGEONS.—T. J. Cottle, Esq., Pulteney Villa, Cheltenham; and Mr. E. Hale, Handsworth.

HAMBURGH (Golden-pencilled).—First, Mrs. W. C. Worrall, Rice House, Knotty Ash, near Liverpool. Second, J. Whittington, Wootton Wawen, Henley-in-Arden. Third, R. Alkin, Hartshill, near Atherstone. Commended, Mrs. Parkinson, Knapthorpe, Newark, Nottinghamshire. *Chickens of* 1857.—SILVER PLATE, R. R. Clayton, Esq., Hedgerley Park, Slough, Buckinghamshire. Second, Miss E. A. Botham, Wexham Court, Slough, Buckinghamshire. Third, C. R. Titterton, Birmingham. Highly Commended, J. Lowe, Whitmore House, Birmingham; J. Worsey, Lower Clopton, Stratford-upon-Avon; J. Hollings, 9, High-street, Horton, Bradford, Yorkshire; J. Martin, Northwick Terrace, Claines, Worcester; J. B. Chune, Green Bank, Coalbrookdale. Commended, Miss S. Coles, Bicton, near Shrewsbury. (A very good class.)

HAMBURGH (Golden-spangled).—First, Mrs. W. C. Worrall, Rice House, Knotty Ash, near Liverpool. Second, J. Bamforth, Holmfirth, Huddersfield. Third, W. Kershaw, Heywood, near Manchester. Highly Commended, J. Conyers, 42, Boar Lane, Leeds. *Chickens of* 1857.—SILVER PLATE, J. B. Chune, Coalbrookdale, Shropshire. Second, G. Fell, Warrington. Third, J. Dixon, North Park, Horton, Bradford, Yorkshire. Highly Commended, Mrs. W. C. Worrall, Rice House, Knotty Ash, near Liverpool; J. Ludlam, North Holme-street, Bradford, Yorkshire; Messrs. Haigh and Hartley, Holmfirth, Huddersfield, Yorkshire. Commended, A. G. Waithman, Halifax; M. H. Broadhead, Stubbin, Holmfirth, Yorkshire. (An extraordinary good class.)

HAMBURGH (Silver-pencilled).—First, J. Ludlam, North Holme-street, Bradford, Yorkshire. Second, E. Archer, Malvern. Third, Captain Corbett, Ashton Hall, Shiffnal. *Chickens of* 1857.—SILVER PLATE, E. T. Archer, Malvern. Second, E. T. Archer, Malvern. Third, E. T. Archer, Malvern. Highly Commended, W. H. Denison, Esq., Hardwicke Cottage, Woburn, Bedfordshire; J. Bennett, North Nibley, near Dursley; J. Dixon, North Park, Horton, Bradford, Yorkshire. Commended, W. Endall, Henley-in-Arden, Warwickshire. (A very good class.)

HAMBURGH (Silver-spangled).—SILVER PLATE, R. Teebay, Fulwood, Preston, Lancashire. Second, Mrs. Chune, Green Bank, Coalbrookdale. Third, C. S. Dixon, North Park, Horton, Bradford, Yorkshire. Highly Commended, Messrs. Bird and Beldon, Eccleshill Moor, Bradford, Yorkshire. (A good class.) *Chickens of* 1857.—First, Mrs. T. L. Fellowes, Beighton Rectory, Acle, Norfolk. Second, Miss E. Breavington, Bath Road, Hounslow, Middlesex. Third, Mrs. S. Sharp, 47, Mill Lane, Bradford, Yorkshire. Highly Commended, The Right Hon. Lord Berwick, Cronkhill, near Shrewsbury; R. Teebay, Fulwood, Preston, Lancashire; Mrs. Chune, Coalbrookdale, Shropshire; J. Mitchell, Hipperholme, near Halifax. Commended, T. Burnett, Hutton, Preston, Lancashire; H. Sharp, 47, Mill Lane, Bradford, Yorkshire; H. Carter, Upper Thong, Holmfirth, Huddersfield. (A good class.)

POLISH (Black, with White Crests).—First, J. Conyers, 42, Boar Lane, Leeds. Second, Mrs. G. C. Adkins, West House, Edgbaston, Birmingham. Third, T. P. Edwards, Lyndhurst, Hampshire. *Chickens of* 1857.—SILVER PLATE, T. Battye, Holmbridge, Huddersfield, Yorkshire. Second, G. Ray, Ivy Cottage, Minestead, Lyndhurst, Hampshire. Third, G. S. Fox, The Court, Wellington, Somerset.

POLISH (Golden) —First, G. Greenall, jun., Grappenhall, Warrington. Second, G. S. Fox, The Court, Wellington, Somerset. Third, R. P. Williams, Dame-street, Dublin. *Chickens of* 1857.—SILVER PLATE, J. F. Greenall, Grappenall Hall, Warrington. Second, R. P. Williams, Dame-street, Dublin. Third, Mrs. Pettat, Ashe Rectory, near Basingstoke, Hampshire.

POLISH (Silver).—First, W. Dawson, Selly Oak, Birmingham. Second,

Mrs. G. C. Adkins, West House, Edgbaston, Birmingham. Third, J. F. Greenall, Esq., Grappenhall Hall, Warrington. *Chickens of* 1857.—First, P. H. Jones, High-street, Fulham, London. Second, Miss S. Dixon, North Park, Horton, Bradford, Yorkshire. Third, Mrs. Pettat, Ashe Rectory, near Basingstoke, Hampshire. Highly Commended, Mrs. G. C. Adkins, West House, Edgbaston, Birmingham; G. Greenall, jun., Grappenhall, Warrington.

Polish (of any other variety).—First, G. Greenall, jun., Grappenhall, Warrington (White). Second, R. W. Fryer, Hinton Road, near Hereford (Buff). Highly Commended, Mrs. Mills, Bisterne, Ringwood, Hampshire (White). *Chickens of* 1857.—First, J. F. Greenall, Esq., jun., Grappenhall, Warrington (White). (Scond prize withheld.)

Spanish.—Silver Plate, J. K. Fowler, Prebendal Farm, Aylesbury. Second, J. Busst, jun., Walsall. Third, E. Page, Hawthorn Villa, Smethwick. Fourth, C. T. Nelson, Newhall-street, Birmingham. Highly Commended, Captain W. Hornby, R.N., Knowsley Cottage, Prescot; W. R. Bull, Newport Pagnell, Buckinghamshire; C. E. Coleridge, Esq., Eton, Windsor. (An excellent class). *Spanish Hens.*—First, J. Busst, jun., Walsall. Second, Miss E. Nelson, Newhall-street, Birmingham. Highly Commended, Miss H. Whittington, Preston Hill, Henley-in-Arden, Warwickshire; Mrs. Stow, Bredon, near Tewkesbury. Commended, Mrs. Stow, Bredon, near Tewkesbury. (A meritorious class.) *Chickens of* 1857.—First, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Second, W. W. Brundrit, Runcorn, Cheshire. Third, Miss M. L. Rake, Brandon Hill, Bristol. Fourth, J. K. Fowler, Prebendal Farm, Aylesbury. Highly Commended, Master McGregor Rake, Brandon Hill, Bristol; W. W. Brundrit, Runcorn, Cheshire; J. Clews, Walsall, Staffordshire; Mrs. Teebay, Fulwood, near Preston, Lancashire. Commended, J. Howard, Tarleton, Chorley, Lancashire; M. Ridgway, Dewsbury, Yorkshire; T. Cole, Lord's Wood Road, Beech Lane, Birmingham. (An unusually good class.) *Spanish Pullets.*—First, W. R. Bull, Newport Pagnell, Buckinghamshire. Second, M. Ridgway, Dewsbury, Yorkshire. Highly Commended, Miss E. Nelson, Newhall-street, Birmingham.

Dorking (Coloured).—Silver Plate, Capt. W. Hornby, R.N., Knowsley Cottage Prescot. Second, W. G. Tilley, Wolseley Hall, Rugeley. Third, The Rev. S. Donne, Oswestry. Fourth, J. Horrocks, jun., Preston, Lancashire. Highly Commended, W. Bromley, Smithfield, Birmingham; J. Drewry, Newton Mount, near Burton-upon-Trent; Dr. J. D. Hewson, Coton Hill, Stafford; G. Botham, Wexham Court, Slough, Buckinghamshire. Commended, the Rev. J. Hill, The Citadel, Hawkstone, Shrewsbury; J. Whittington, Wootton Wawen, near Henley-in-Arden; J. Faulkner, Bretby Farm, Burton-upon-Trent; W. Bownass, Bowness, Windermere. (An excellent class.) *Dorking Hens.*—First, Mrs. Hanbury, Leamington Hastings, Rugby. Second, H. Smith, The Grove, Cropwell Butler, Bingham, Nottinghamshire. *Chickens of* 1857.—First, the Rev. S. Donne, Oswestry. Second, Capt. W. Hornby, R.N., Knowsley Cottage, Prescot. Third, the Rev. S. Donne, Oswestry. Fourth, C. H. Wakefield, Esq., Malvern Wells, Worcestershire. Highly Commended, the Lady Sophia Desvœux, Drakelow Hall, Burton-upon-Trent; the Hon. W. W. Vernon, Wolseley Hall, Rugeley; Mrs. Donne, Oswestry; Mrs. Franklin, Spratton House, near Northampton; the Rev. J. Hill, The Citadel, Hawkstone, Shrewsbury; C. Sandiers, Esq., Coventry; C. C. Dormer, Rousham, Oxfordshire; J. Smith, Henley-in-Arden, Warwickshire; H. Smith, The Grove, Cropwell Butler, near Bingham, Nottinghamshire; E. Lister, Cassia Lodge, Northwich, Cheshire; H. Ransome, Holbrook, Ipswich, Suffolk; J. Drewry, Newton Mount, near Burton-upon-Trent; A. H. L. Popham, Esq., Purley Park, Reading; the Right Hon. Viscount Hill, Hawkstone, Shropshire. Commended, The Lady Sophia Desvœux, Drakelow Hall, Burton-upon-Trent; C. R. Titterton, Birmingham; Mrs. Titterton, King's Norton, near Birmingham; the Rev. J. F. Newton, Kirby-in-Cleveland, Yorkshire; R. Guilding, Malvern Wells, Worcestershire; J. Drewry, Newton Mount, near Burton-upon-Trent; Mrs. H. Fookes, Whitchurch, Blandford, Dorsetshire. (A marvellous class.) *Dorking Pullets.*—First, J. Smith, Henley-in-Arden, Warwickshire. Second, T. Ullock, Esq., Quarry Howe, Windermere. Highly Commended, The Lady Sophia Desvœux, Drakelow Hall, Burton-upon-Trent; T. Ullock, Esq., Quarry Howe, Windermere. Commended, C. R. Colvile, Esq., M.P., Lullington, Burton-upon-Trent; R. Guilding, Malvern Wells, Worcestershire; C. H. Wakefield, Esq., Malvern Worcestershire.

Dorking (White).—First, H. Allsopp, Esq., Burton-upon-Trent. Second, Mrs. Farmer, Whateley Hall, near Tamworth. Highly Commended, Capt. J. Beardmore, Uplands, near Fareham, Hampshire; H. Allsopp, Esq., Burton-upon-Trent. *Chickens of* 1857.—First and Second, H. Allsopp, Esq,, Burton-upon-Trent. Highly Commended, Mrs. Farmer, Whateley Hall, near Tamworth; Capt. T. Beardmore, Uplands, near Fareham, Hampshire; F. J. Coleridge, Esq., The Manor House, Ottery St. Mary, Devonshire; H. Lingwood, Needham Market, Norfolk. Commended, the Right Hon. Countess of Dartmouth, Patshull, Albrighton, Wolverhampton. (An improving class.)

Cochin-China (Cinnamon and Buff).—First, T. Stretch, Marsh Lane, Bootle, Liverpool. Second, Mrs. H. Fookes, Whitchurch, Blandford, Dorsetshire. Third, Her Grace the Duchess of Sutherland, Trentham Hall, Staffordshire. Highly Commended, H. Tomlinson, Balsall Heath Road, Birmingham. Commended, M. Potter, Prestwich, near Manchester; C. T. Nelson, Newhall-street, Birmingham. *Chickens of* 1857.—Silver Plate, Mrs. H. Fookes, Whitchurch, Blandford, Dorsetshire. Second, the Rev. G. Gilbert, Claxton, Norwich. Third, the Rev. S. Donne, Oswestry. Highly Commended, H. Tomlinson, Balsall Heath Road, Birmingham; T. Stretch, Marsh Lane, Bootle, Liverpool; C. Punchard, Blunt's Hall, Haverhill, Suffolk. Commended, Master T. H. Stretch, Marsh Lane, Bootle, Liverpool; the Rev. G. Gilbert, Claxton, Norwich. (A beautiful class.)

Cochin-China (Brown and Partridge-feathered).—First, P. Cartwright, Oswestry. Second and Third, B. Ford, Ide, near Exeter. *Chickens of* 1857.—First, P. Cartwright, Oswestry. Second, J. Busst, Walsall. Third, Mrs. Hodson, North Petherton, Bridgewater, Somersetshire. Highly Commended, Miss V. Woodman, Musgrove, West Bank, Aughton, near Ormskirk. (An excellent class.)

Cochin-China (White).—First, A. Peters, The Priory, Fratton, near Portsmouth. Second, R. Chase, Moseley Road, Birmingham. Commended, Mrs. Herbert, Powick, near Worcester. *Chickens of* 1857.—First, R. Chase, Moseley Road, Birmingham. Second, Mrs. Herbert, Powick, near Worcester. Highly Commended, E. Herbert, Powick, near Worcester; R. Chase, Moseley Road, Birmingham; A. Peters, The Priory, Fratton, near Portsmouth; F. W. Earle, Edenhurst, Prescot, Lancashire. Commended, A. Peters, The Priory, Fratton, near Portsmouth.

Cochin-China (Black).—Prizes withheld. *Chickens of* 1857.—Second, the Rev. H. G. Bailey, Swindon, Wiltshire. (First prize withheld.)

Brahma Pootra.—First, the Rev. F. Thursby, Abington Rectory, Northamptonshire. Second, J. F. Chater, Haverhill, Suffolk. *Chickens of* 1857.—First, R. Teebay, Fulwood, near Preston, Lancashire. Second, Mrs. Teebay, Fulwood, near Preston, Lancashire. Highly Commended, Miss E. A. Botham, Wexham Court, near Slough, Buckinghamshire; J. F. Chater, Haverhill, Suffolk. Commended, Miss E. A. Botham, Wexham Court, near Slough, Buckinghamshire.

Game (White and Piles).—First, R. Dummeller, Shackerstone Field, Atherstone. Second, F. Sabine, 25, Bull-street, Birmingham. Third, Mrs. Titterton, King's Norton, Worcestershire. Highly Commended, J. Jennens, The Friary, Handsworth, Birmingham. Commended, C. Hopkins, Newton Regis, Tamworth. *Chickens of* 1857.—First, E. H. Strange, Ampthill, Bedfordshire. Second, Miss S. Kimberley, Gilbert Stone House, Yardley, Birmingham. Third, W. Johnson, High Grounds, Worksop, Nottinghamshire; *Painted legs, Mrs. Baker, Dordon Hall, near Atherstone.* Highly Commended, the Rev. T. E. Abraham, Bickerstaffe, Ormskirk. Commended, Messrs. Haigh and Hartley, Holmfirth, near Huddersfield, Yorkshire.

Game (Black-breasted and other Reds).—First, Baron L. De Rothschild, M.P., Gunnersbury Park, Acton, Middlesex. Second, W. Johnson, High Grounds, Worksop, Nottinghamshire. Third, G. W. Moss, The Beach, near Liverpool. Highly Commended, W. Johnson, High Grounds, Worksop, Nottinghamshire; R. S. Arnold, Coombe Fields, near Coventry; A. H. Emery, Bath-street, Birmingham. Commended, H. Shield, Preston, Rutlandshire; E. Lowe, Comberford Mills, Tamworth. *Chickens of* 1857.—Silver Plate, W. H. Swann, Farnsfield, Southwell, Nottinghamshire. Second, G. Smith, 53, Aston-street, Birmingham. Third, E. H. France, Esq., Ham Hill, Worcester. Highly Commended, N. M. De Rothschild, Esq., Gunnersbury Park, Acton, Middlesex; E. H. Strange, Ampthill, Bedfordshire; R. S. Arnold, Coombe Fields, Coventry; W. Johnson, High Grounds, Worksop, Nottinghamshire; W. Cox, Esq., Brailsford Hall, Derby; A. H. Emery, Bath-street, Birmingham; J. Camm, Farnsfield, Southwell, Nottinghamshire; W. Reading, Radford, Leamington. Commended, R. Swift, Southwell, Nottinghamshire; J. Mitchell, Hipperholme, near Halifax; E. Lowe, Comberford Mill, near Tamworth; T. T. Burman, Lynn, near Walsall; G. W. Moss, The Beach, near Liverpool. (An excellent class.)

Game (Blacks and Brassy-winged, except Greys).—First, the Rev. T. E. Abraham, Bickerstaffe, Ormskirk. Second, R. Greves, Inkford Brook, King's Norton, Worcestershire. Third, W. Dawson, Selly Oak, Birmingham. Commended, J. Shackel, Blenheim House, Small Heath, Birmingham; W. J. Bentley, Wellington, Shropshire. *Chickens of* 1857.—First, G. C. Peters, 101, High-street, Birmingham. Second and Third, R. Greves, Inkford Brook, King's Norton, Worcestershire. Commended, The Rev. T. E. Abraham, Bickerstaffe, Ormskirk; W. Ballard, Leamington; *Black-leaded legs, W. J. Bentley, Wellington, Shropshire.*

Game (Duckwings, and other Greys and Blues).—First, R. W. Vernon, Esq., Wolsley Hall, Rugely. Second, G. C. Peters, 101, High-street, Birmingham. Third, J. Wright, Esq., Hulland Hall, Ashbourne, Derbyshire. Commended, W. Shield, Preston, Rutlandshire. *Chickens of* 1857.—First and Second, J. Wright Esq., Hulland Hall, Ashbourne, Derbyshire. Third, J. Hand, Amington Old Hall, near Tamworth. Highly Commended, W. H. Swann, Farnsfield, Southwell, Nottingham. Commended, T. W. Pearse, Rye Close, Bedford; *Painted legs, J. Douglas, Wolsley Hall, Rugeley.* Commended, E. Farmer, Green Hill, Derby.

Malay.—First, J. G. Attwater, Hallingwood Farm, Cobberley, Cheltenham. Second, W. Manfield, jun., Dorchester. *Chickens of* 1857.—First, J. J. Fox, Devizes, Wiltshire. Second, C. Ballance, 5, Mount Terrace, Taunton, Somersetshire. (The Malay class was very good.)

Any other Distinct Breed.—First, Mrs. T. L. Fellowes, Beighton Rectory, Acle, Norfolk (Black Hamburgh). First, G. M. Kettle, Esq., Dallicott House, Bridgenorth (Cuckoo). First, W. Dawson, Hopton Mirfield, Yorkshire (Sultans). First, J. Smith, Henley-in-Arden, (Andalusian). Second, Mrs. Sharp, 47, Mill Lane, Bradford, Yorkshire (Black Hamburgh). Second, M. Kettle, Esq., Dallicott House, Bridgenorth (Cuckoo). Second, A. Watkin, Walkley, Sheffield (Sultans). Second, W. Endall, Henley-in-Arden, Warwickshire (Andalusian). Second, W. G. Vivian, Esq., Glamorganshire (Frizzled). Highly Commended, The Right Hon. Lady Guernsey, The Bury, Leamington (Cuckoo); T. Taylor, Burleigh Villa, Wellington, Shropshire (Rumpless). Commended, A. Watkin, Walkley, Sheffield (Sultans); T. Taylor, Burleigh Villa, Wellington, Shropshire (Emu or Negro).

Bantams (Gold-laced).—Silver Plate, the Rev. G. S. Master, Welsh Hampton, Ellesmere, Shropshire. Second, the Hon. Miss Russell, Kirby Mallory, Hinckley, Leicestershire. Highly Commended, the Rev. G. F. Hodson, North Petherton; G. C. Adkins, West House, Edgbaston, Birmingham. Commended, Miss Brooke, Cottage Place, Chelmsford, Essex; the Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk; M. Leno, jun., Harpenden, Hertfordshire.

Bantams (Silver-laced).—First, M. Leno, jun., Harpenden, Hertfordshire. Second, T. H. D. Bayly, Ickwell House, near Biggleswade, Bedfordshire. Highly Commended, M. Leno, jun., Harpenden, Hertfordshire.

Bantams (White).—First, J. K. Bartrum, Esq., Bath. Second, W. Elkington, Lichfield. Highly Commended, the Hon. Miss Dillon, Ditchley Park, Enstone, Oxfordshire; J. Conyers, 42, Boar Lane, Leeds. Commended, S. Ridley, Clayton, Sussex; W. B. Mapplebeck, 6, Bull Ring, Birmingham.

Bantams (Black).—First, R. Hawksley, jun., Southwell, Nottinghamshire. Second, T. H. D. Bayly, Ickwell House, near Biggleswade, Bedfordshire. Highly Commended, W. Reading, Radford, Leamington; M. Ridgway, Dewsbury, Yorkshire. Commended, Miss S. Perkins,

Sutton Coldfield; J. J. Horton, 233, Bradford-street, Birmingham; J. Martin, Northwick Terrace, Claines, Worcester.

BANTAMS (any other variety).—SILVER PLATE, C. R. Colvile, Esq., M.P., Lullington, Burton-upon-Trent. Second, W. S. Forrest, Eagle Cliff, Greenhithe, Kent. Highly Commended, the Right Hon. Lord Berwick, Cronkhill, near Shrewsbury; C. R. Colvile, Esq., M.P., Lullington, Burton-upon-Trent; T. H. D. Bayly, Ickwell House, near Biggleswade, Bedfordshire; J. Tailby, Hill-street, Birmingham; H. G. Lloyd, Manor House, Abbot's Leigh, near Bristol; M. Ridgway, Dewsbury, Yorkshire; W. S. Forrest, Eagle Cliff, Greenhithe, Kent. (The Judges award one general High Commendation to all the Bantams classes; they cannot speak too highly of the Game Bantams.)

CLASSES FOR SINGLE COCKS.

DORKING.—First, Mrs. G. W. Moss, The Beach, Liverpool. Second, Mrs. W. Hornby, Knowsley Cottage, Prescot. Third, the Right Hon. Countess of Chesterfield, Bretby Hall, Burton-upon-Trent. Highly Commended, C. Sandiers, Esq., Coventry; H. Smith, The Grove, Cropwell Butler, near Bingham, Nottinghamshire; J. Faulkner, Bretby Farm, near Burton-upon-Trent; W. Fowler, jun., Wood End Cottage, Erdington; H. Lingwood, Needham Market, Suffolk; the Rev. J. Farmer, Newton, Kirby-in-Cleveland, Yorkshire; W. G. Tilley, Wolseley Hall, Rugeley; J. Horrocks, jun., Preston, Lancashire; R. Guilding, Malvern Wells, Worcestershire. Commended, Mrs. Hanbury, Leamington Hastings, near Rugby; Miss Brooke, Cottage Place, Chelmsford, Essex; J. Drewry, Newton Mount, near Burton-upon-Trent; The Rev. M. Amphlett, Church Lench Rectory, Evesham; W. J. Drewry, Newton Mount, Burton-upon-Trent. (A wonderful class.)

SPANISH.—First, Master McGregor Rake, Brandon Hill, Bristol. Second, Mrs. Teebay, Fulwood, Preston, Lancashire. Third, Mrs. J. Dain, Lea Brook, Wednesbury. Highly Commended, J. R. Rodbard, Esq., Aldwick Court, Langford, Bristol; G. Botham, Wexham Court, Slough; Master McGregor Rake, Brandon Hill, Bristol; J. Shaw, Hunsbury Hill, Northampton. (A very good class.)

COCHIN-CHINA.—First, W. Manfield, jun., Dorchester. Second, Master E. C. Stretch, Marsh Lane, Bootle, Liverpool. Highly Commended, H. James, Walsall; J. Cattell, Moseley Wake Green, near Birmingham; Master E. C. Stretch, Marsh Lane, Bootle, Liverpool. (A good class.)

BRAMAH POOTRA.—First, W. G. K. Breavington, Vicarage Farm, Hounslow, Middlesex. Second, — Heath, Wolsley Hall, Rugeley. Highly Commended, Master J. K. H. Fowler, Prebendal Farm, Aylesbury.

HAMBURGH (Golden-pencilled).—First, R. Hawksley, jun., Southwell, Nottinghamshire. Second, Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk. Highly Commended, H. Adkins, Edgbaston, Birmingham; W. C. Worrall, Rice House, Knotty Ash, near Liverpool; Messrs. J. and R. Blackburn, Edward-street Mills, Preston, Lancashire. Commended, Miss E. A. Botham, Wexham Court, Slough, Buckinghamshire; the Misses E. and M. Johnson, King's Norton; J. Lowe, Whitmore House, Birmingham.

HAMBURGH (Golden-spangled).—First, J. Bamforth, Holmfrith, Huddersfield. Second, Mrs. Chune, Green Bank, Coalbrookdale. Highly Commended, Mrs. Chune, Green Bank, Coalbrookdale; I. Davies, Bull-street, Harborne, Birmingham; W. C. Worrall, Rice House, Knotty Ash, near Liverpool. Commended, Mrs. W. Swann, Farnsfield, Southwell, Nottinghamshire. (A very good class.)

HAMBURGH (Silver-pencilled).—First and Second, E. T. Archer, Malvern. Highly Commended, Capt. Corbett, Aston Hall, Shifnal, Shropshire; the Rev. F. B. Pryor, Bennington Rectory, Stevenage, Hertfordshire.

HAMBURGH (Silver-spangled).—First, Miss E. Brevington, Bath Road, Hounslow, Middlesex. Second, Mrs. Teebay, Fulwood, Preston, Lancashire.

POLISH.—First, the Right Hon. Lady Guernsey, The Bury, Leamington. Second, G. Ray, Ivy Cottage, Minestead, Lyndhurst, Hampshire. Highly Commended, G. Fell, Warrington.

GAME.—First, J. Chinn, Gas-street, Birmingham. Second and Third, J. Yardley, Comberford Hall, near Tamworth. Highly Commended, Baron L. De Rothschild, M.P., Gunnersbury Park, Acton, Middlesex; W. Cox, Esq., Brailsford Hall, Derby; T. T. Burnam, Lynn, near Walsall. Commended, Mrs. W. Hornby, Knowsley Cottage, Prescot; D. Smith, Bromsgrove; J. B. Dixon, 48, New Town Row, Birmingham; G. Bradwell, Southwell, Nottinghamshire.

GEESE (White).—First, B. H. Brooksbank, Tickhill, Rottherham. Second, G. Daft, Halloughton, Southwell, Nottinghamshire. Third, W. Manfield, Dorchester.

GEESE (Grey and Mottled).—First, Miss E. Fowler, Prebendal Farm, Aylesbury. Second, F. Edwards, Esq., Bulstrode Park, Buckinghamshire. Third, H. G. Lloyd, Manor House, Abbot's Leigh, Bristol. Highly Commended, T. Johnson, Halton Grange, Runcorn, Cheshire; the Rev. W. Mousley, Ashby, near Welford, Northamptonshire. Commended, S. C. Baker, Beaufort-street, King's Road, Chelsea, London. (A good class.)

DUCKS (White Aylesbury).—First, J. Weston, Aylesbury. Second, Miss M. E. Fowler, Prebendal Farm, Aylesbury. Third, Mrs. J. Weston, Aylesbury. Highly Commended, the Right Hon. Viscount Hill, Hawkstone, Shropshire; J. Weston, Aylesbury. Commended, W. G. K. Breavington, Vicarage Farm, Hounslow, Middlesex; J. M. Baker, Dordon Hall, Atherstone.

DUCKS (Rouen).—First, G. Daft, Halloughton, Southwell, Nottinghamshire. Second, Mrs. C. Brown, Withington, near Shrewsbury. Third, R. E. Ashton, the Oaklands, Bury, Leamington. Highly Commended, W. G. K. Breavington, Vicarage Farm, Hounslow, Middlesex; T. W. Pearse, Rye Close, Bedford; Mrs. J. Weston, Aylesbury; C. Punchard, Blunt's Hall, Haverhill, Suffolk; R. P. Williams, Dame-street, Dublin. Commended, Her Grace the Duchess of Sutherland, Trentham Hall, Staffordshire. (A good class).

DUCKS (any other variety).—First, F. W. Earle, Edenhurst, Prescot, Lancashire (Buenos Ayres). Second, E. H. France, Esq., Ham Hill, near Worcester (White Call). Third, the Right Hon. Lord Berwick, Cronkhill, near Shrewsbury (Penguin). (This class abounds in good specimens.)

TURKEYS.—First, R. Brand, Great Shelford, Cambridgeshire. Second, J. Meire, Berrington, Shrewsbury. Third, the Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk. Highly Commended, Miss H. Johnstone, Annandale, Marchbank Farm, near Moffat, Dumfriesshire; J. Weston, Aylesbury. Commended, T. Williams, Reading, Berkshire.

TURKEYS, YOUNG.—First, R. Brand, Great Shelford, Cambridgeshire. Second, G. Daft, Halloughton, Southwell, Nottinghamshire. Third, the Rev. T. Stevens, Bradfield Rectory, near Reading, Berkshire. Highly Commended, the Right Hon. Viscount Hill, Hawkstone, Shropshire; Mrs. C. Brown, Withington, near Shrewsbury; the Rev. T. Stevens, Bradfield Rectory, near Reading, Berkshire; the Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk. (A capital class.)

PIGEONS.

SILVER PLATE.—Almond Tumblers, Pouters, Carriers—E. A. Lingard, Snow Hill, Birmingham.

SILVER PLATE.—Nuns, Jacobins, Fantails—H. Weir, 11, Lyndhurst Villas, Lyndhurst Road, Peckham, Surrey.

Carriers.—First, Messrs. W. Siddons and Sons, Aston Road, Birmingham. Second, J. Percivall, Clent Villas, Harborne, near Birmingham. Commended, Messrs. W. Siddons and Sons, Aston Road, Birmingham. *Almond Tumblers.*—First, Mrs. E. A. Lingard, Snow Hill, Birmingham. Second, J. Percivall, Clent Villa, Harborne, near Birmingham. Highly Commended, E. R. Maddeford, Staines Villa, Staines, Middlesex. *Balds.*—First, E. A. Lingard, Snow Hill, Birmingham. Second, J. W. Edge, Aston New Town, Birmingham. Highly Commended, Miss E. S. Adkins, West House, Edgbaston, Birmingham; Miss M. Parkinson, Knapthorpe, Newark, Nottinghamshire; E. A. Lingard, Snow Hill, Birmingham. *Beards.*—First, C. Cotton, Crewe, Cheshire. Second, J. W. Edge, Aston New Town, Birmingham. *Jacobins.*—First, E. R. Maddeford, Staines Villa, Staines, Middlesex. Second, H. Weir, 11, Lyndhurst Villas, Lyndhurst Road, Peckham, Surrey. Highly Commended, E. R. Maddeford, Staines Villas, Staines, Middlesex; W. Titterton, Birmingham. *Fantails.*—First, Miss J. Milward, Newton St. Loe, Bath. Second, Miss E. S. Adkins, West House, Edgbaston, Birmingham. Highly Commended, Miss E. S. Adkins, West House, Edgbaston Birmingham; J. Percivall, 13, Queen's Row, Walworth, Surrey. *Trumpeters.*—First, T. H. Adkins, West House, Edgbaston, Birmingham. Second, Miss C. Titterton, King's Norton, near Birmingham. Commended, Mrs. Brooke, Cottage Place, Chelmsford, Essex; J. E. Mapplebeck, 105, Moseley Road, Birmingham. *Pouters or Croppers.*—Second, G. Ure, Rose Bank, Dundee. (First prize withheld.) *Mottled Tumblers.*—First and Second, Mrs. E. A. Lingard, Snow Hill, Birmingham. *Owls.*—First, H. Weir, 11, Lyndhurst Villas, Lyndhurst Road, Peckham, Surrey. Second, T. H. Adkins, West House, Edgbaston, Birmingham. Commended, C. Cotton, Crewe, Cheshire; A. Pressdee, Belgrave-street, Birmingham; T. H. Adkins, West House, Edgbaston, Birmingham. *Nuns.*—First, J. Percivall, 13, Queen's Row, Walworth, Surrey. Second, Miss J. Milward, Newton St. Loe, Bath. Commended, Mrs. E. A. Lingard, Snow Hill, Birmingham. *Turbits.*—First, Master Brooke, Cottage Place, Chelmsford, Essex. Second, T. H. Adkins, West House, Edgbaston, Birmingham. Commended, H. Child, Sherborne Road, Birmingham; W. Titterton, Birmingham; A. Pressdee, Belgrave Street, Birmingham. *Archangels.*—First, F. Adkins, Edgbaston, Birmingham. Second, Miss C. Titterton, King's Norton, Worcestershire. *Barbes.*—First, F. Adkins, Edgbaston, Birmingham. Second, P. H. Jones, High-street, Fulham, Middlesex. Highly Commended, H. Weir, 11, Lyndhurst Villas, Lyndhurst Road, Peckham, London. *Runts.*—First, Mrs. E. A. Lingard, Birmingham. Second, P. H. Jones, High-street, Fulham, Middlesex. *Dragoons.*—First, Miss Ervan, Kirby Bellars, near Melton Mowbray. Second, Master Brooke, Cottage Place, Chelmsford, Essex. *Any other new or distinct variety.*—First, F. Adkins, Edgbaston, Birmingham (Magpies). Second, Miss M. Parkinson, Knapthorpe, Newark, Nottinghamshire (German Swallow). Commended, Master Brooke, Cottage Place, Chelmsford, Essex (Black Magpie); as Ground Doves, F. Adkins, Edgbaston (Australian Bronze-wing); the Misses E. and M. Johnson, King's Norton, near Birmingham (Magpie).

WARMINSTER POULTRY SHOW.

(*From a Correspondent.*)

THIS Show, in connexion with the Wilts Agricultural Society, came off on Wednesday, November 18th; and we may say with confidence, every class of fowl was well represented. We gave a list of prizes last week, and shall confine our remarks to those classes which deserve especial comment. We will begin with *Cochins*, which, on the whole, were a very good class. Mrs. Fookes, Messrs. Bartrum and Keable, were the principal exhibitors; both Mrs. Fookes and Mr. Bartrum showed very good birds. Mr. Keable's were very good for feather, but wanted size. Mr. Bartrum took first in old, and Mrs. Fookes in young. We next come to *Dorkings*, which we must say were a capital class. Mr. Smith was the principal exhibitor, taking first both for old and young; and his young cock bird was as near perfection as it is possible to get. Mrs. Fookes and the Rev. E. Lutt, showed good birds. The *Malays* were a good, but not a large class. Mr. Fox was the most successful competitor, taking second for old, and first and second for young. Mr. Attwater showed good birds, and took first for old. We now come to the *Spanish*, which were really very good. The principal exhibitors were Messrs. Eacott and Bartrum; the former taking nearly all the prizes, second for old, and first and

second for young. His birds were very good, especially the young birds. Mr. Bartrum's old were very good, with which he took the first prize, and one High Commendation. The *Game* fowls were pretty good, but not equal to some of the classes. Messrs. Fox and Elling were the principal exhibitors; the former carrying off the laurels, taking first for young, and second for old. Mr. Pain showed one pen of good birds, which were commended. In the young class, one exhibitor had recourse to one of the meanest actions an exhibitor could be guilty of: he had coloured the cock's legs to make him match with the hens; but, fortunately, the Judge discovered it, and the pen was disqualified. In the *Poland* class, Mr. Fox's old Silver were good, as well as his Gold and Silver in the young. We now come to *Hamburghs*, in the Golden-spangled in the old class. The Rev. C. J. Down, Messrs. Fox and Eacott, were the chief competitors; the Rev. C. J. Down taking first, and Mr. Eacott second. In the young, Messrs. Eacott and Bartrum were the principals, the former taking first, the latter second. Mrs. Fookes showed good birds. In the Silver-spangled, Messrs Cother and Bartrum; the former first, the latter second, in the old class; and in the young, Mr. Bartrum took first, with a very good pen of birds, and Mr. Mills second. The Silver-pencilled were, on the whole, a good class. The principal exhibitors were Messrs. Keable, Mills, and Sainsbury. Mr. Keable took first for young, Mr. Mills for old, and Mr. Sainsbury second for both old and young; but his old birds wanted condition, especially one of the hens. In the class for *Barn-door* fowls, Mr. Whittaker was the principal exhibitor; he took second for old and young, Mr. Attwater first for old, and Mr. Neate for young. The *Bantams* were very good, and Mr. Bartrum took both prizes in the Gold and Silver-laced class, with beautiful birds, and first in that for *any variety*, with a good pen of White, and Mr. Vardy second. The *Turkeys* were good. Mr. Barton took first, and Mrs. Fookes second. Mrs. Fookes took first for *Geese*, and Mr. Glass second. The *Rouen Ducks* were capital. Mrs. Fookes took first, and Mr. Smith second. The Judge said Mr. Smith's drake was one of the best he ever saw. The *Aylesburies* were very fine. Mrs. Fookes, Messrs. Murton and Bartrum, showed well. Mrs. Fookes took first, and Mr. Murton second. The class for *Ducks of any other variety*, was a very good one. The chief exhibitors were Messrs. Sainsbury and Barton; the former took first with a very good pen of *Buenos Ayres* ducks, and the latter second, with a pen of *Lincolnshire*.

We have now come to the end of our report; and all we have to say is, that it was a capital Show, in every respect, and well managed, and reflected the highest credit on the Secretaries; and we believe that the decision of the able Judge (Mr. Andrews), gave satisfaction in every instance.

COLOUR OF THE CREST OF GOLDEN POLANDS.

Last spring I gave my opinion in this Journal concerning the colour of the Golden Polish fowl's crest. I now beg leave to say, that since that time I have not altered my opinion, but still consider the laced or spangle-crested as decidedly the best, and very preferable to the black, or black edged with yellow-crested ones. By laced-crested I mean pullets or hens whose crests are yellow, laced with black. They are also, in my opinion, much handsomer than the black-crested ones; the markings of the crest being in keeping with the markings of the body, which is not the case with the black or brown-crested birds. The proper match for this sort of pullet is the light-coloured cock, not the dark one, which I consider to belong to the black-crested hens. The most difficult point to arrive at in these light cocks is to get the wing accurately marked; but this difficulty may, with care, be overcome. They are also rather apt to throw whitish-tailed birds; but this may also, by careful breeding, be eradicated. Now, what I desire to see is this, viz., that wherever a really first-rate pen of Golden Polands of this description present themselves at the forthcoming winter exhibitions, they be rewarded in preference to the black crests, as I am confident it is a great mistake not thus to prefer them.

I have bred a good many of these birds this season, and find that they breed very true to colour. I have had about thirty pullets, and only one had a black crest, the rest being all laced or spangled. Also, from about the same number of cocks, not one has had a black breast, and only two or three have had laced breasts; all the remainder being spangled.

I have also found them, in common with my other Polands, very hardy; in fact, none, excepting the Cochin-China, more so. So far this season I have not lost one by disease.

Whilst I am writing I may, perhaps, be allowed to state that this season I have bred a quantity of Malays, and a large proportion of them have as regular a pea-comb as the very best so-called Brahma Pootra.—G. W. B., *Louth*.

P.S. Last week I lost a white Fantail cock Pigeon. Six days afterwards it was found at the bottom of a chimney, rather altered in both appearance and condition. I think it will now come round again; though, when found, it could only just stand.

EGG PRODUCERS IN WINTER.

I have at the present time, Dorking, Spanish, Cochin, and Brahma Pootra fowls. They are all fed and treated alike, but the last are the only regular layers. This fact has, perhaps, nothing uncommon about it; but as your columns are the resort of all who are interested in poultry, and as I am curious to know whether others may not have to record the same result at this time of the year, I have determined on sending it to you.

I have no doubt that many useful and interesting facts are lost to those who would appreciate them, by a disinclination to appear in print on the part of those who are cognizant of them. Valuable results may be attained by the interchange of apparent trifles between amateurs.—Observer.

[We have Buff Cochin China pullets laying daily.—Ed. C. G.]

OUR LETTER BOX.

Weight of Cochin Cockerel (*A Subscriber*).—A cockerel seven months old, weighing nine pounds, would stand a fair chance of winning at any exhibition, so far as weight is concerned.

Game Cockerel (*E. B.*).—It is not essential that he should be dubbed before being exhibited; but it will deduct much from his appearance if he is not dubbed.

Turtle Doves (*R. L. G.*).—A small outhouse with a wire-netting front, is the best place for them. You will find much interesting information about their management, &c., if you refer to the index of our 16th volume, under the heads "Dove" and "Turtle Dove."

Goldfinch Mules (*Wm. Lesnam*).—Having been successful in rearing Canaries, follow the same treatment in rearing Goldfinch Mules. In addition, bear in mind, that the Goldfinch breeds rather late; so keep back your hen Canaries till the time of the Goldfinch breeding arrives. Also, watch Mr. Goldfinch closely. Some make very good fathers; but they are all active, restless gentlemen; and from over fondness, sometimes devour the eggs. In such cases, it is necessary to take the gentleman away, while the hen lays in the morning; then remove the egg as soon as laid, substituting a bone or ivory egg each time, till all are laid, when they must be returned, and the cock kept away, or put to another hen. Sometimes, too, Master Goldy is mischievously inclined, and will pull all the nest out; and the hen will then require a fresh one made up every morning during laying. These are the troubles in Mule breeding; but when the Goldfinch behaves well, there is no more difficulty in breeding Mules than Canaries.—B. P. B.

LONDON MARKETS.—December 7th.

POULTRY.

The trade is still lamentably bad. The supply of Pheasants and Partridges exceeds anything ever before seen, and they have been sold at almost nominal prices.

	Each.		Each.	
Large fowls	4s. 6d. to 5s. 6d.	Grouse	1s. 9d. to 2s. 0d.	
Smaller do.	3 0 ,, 4 0	Snipes	0 9 ,, 1 3	
Chickens	1 9 ,, 2 6	Rabbits	1 3 ,, 1 4	
Geese	6 0 ,, 7 0	Wild ditto	0 6 ,, 0 10	
Ducks	2 6 ,, 2 9	Pheasants	1 6 ,, 2 3	
Hares	1 9 ,, 2 0	Partridges	1 6 ,, 1 9	
Turkeys	6 0 ,, 10 0	Pigeons	0 9 ,, 0 10	

Larks, per dozen, 0s. 10d. to 1s. 0d.

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WEEKLY CALENDAR.

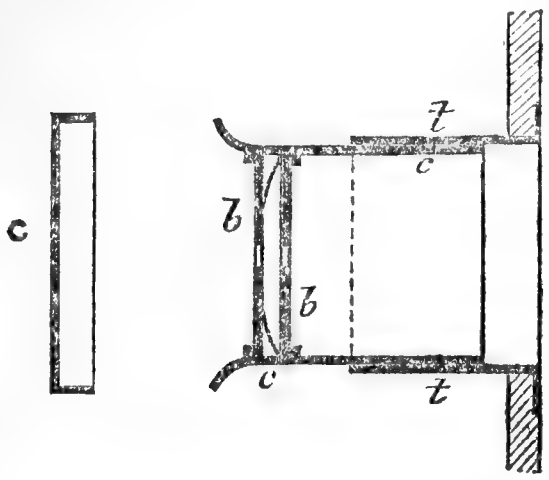
D M	D W	DECEMBER 15—21, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
15	Tu	Arbutus.	30.465—30.222	42—21	N.	—	2 a. 8	49 a. 3	7 41	29	4 31	349
16	W	Ember Week. Spurge laurel.	30.540—30.535	39—20	N.	—	3	49	sets.		4 2	350
17	Th	Glastonbury Thorn.	30.435—30.120	44—31	N.W.	—	4	49	4 a. 5	1	3 32	351
18	F	Virginian Groundsel Tree.	30.098—29.832	48—32	S.W.	.07	4	49	5 14	2	3 2	352
19	S	Blue-berried Honeysuckle.	30.401—30.350	44—28	N.	—	5	50	6 29	3	2 53	353
20	Sun	4 Sunday in Advent.	30.426—30.387	47—43	W.	—	6	50	7 47	4	2 3	354
21	M	St. Thomas.	30.428—30.320	47—42	N.W.	—	6	51	9 5	5	1 33	355

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 45.2° and 34.4°, respectively. The greatest heat 57°, occurred on the 17th, in 1832; and the lowest cold, 7°, on the 16th, in 1853. During the period 94 days were fine, and on 102 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 126.)

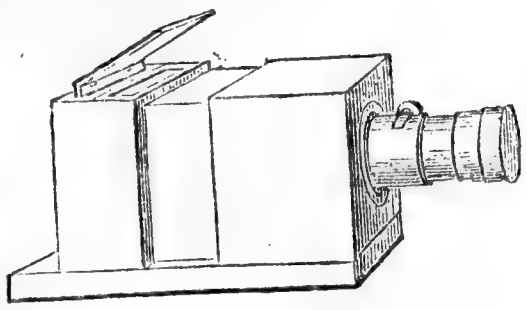
APPARATUS.



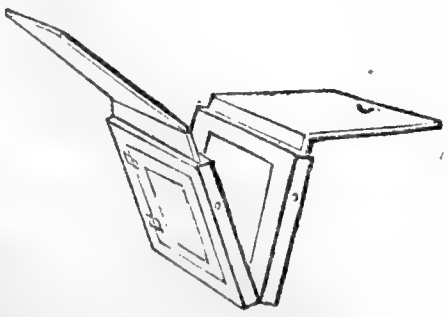
Lens. — A plano-convex glass of nine inches focus, price 2s., is fixed in a tube of brass, tin, or cardboard (*c*), and on each side of it a disc of blackened cardboard (*b*), the same size as the lens, each having an opening in the centre a quarter of an inch in diameter. This slides in another tube (*t*) attached to the woodwork in front of the camera. c is a moveable cap for covering the lens when necessary.

In constructing both camera and lens, it will be well to remember, that a very small amount of light, passing elsewhere than through the lens, will be fatal to the success of a photograph.

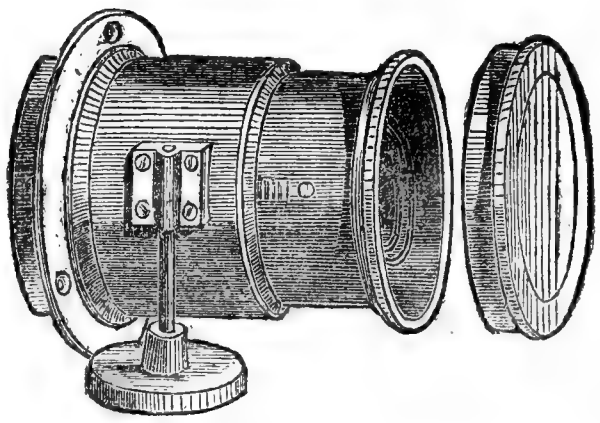
CAMERA.



DOUBLE BACK.

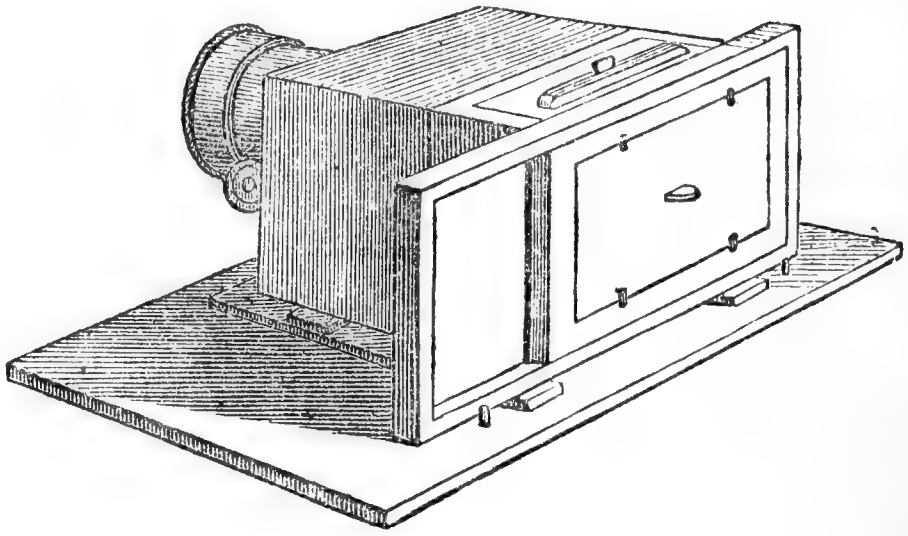


SINGLE ACHROMATIC LENS.



Elevation.

STEREOSCOPIC CAMERA.



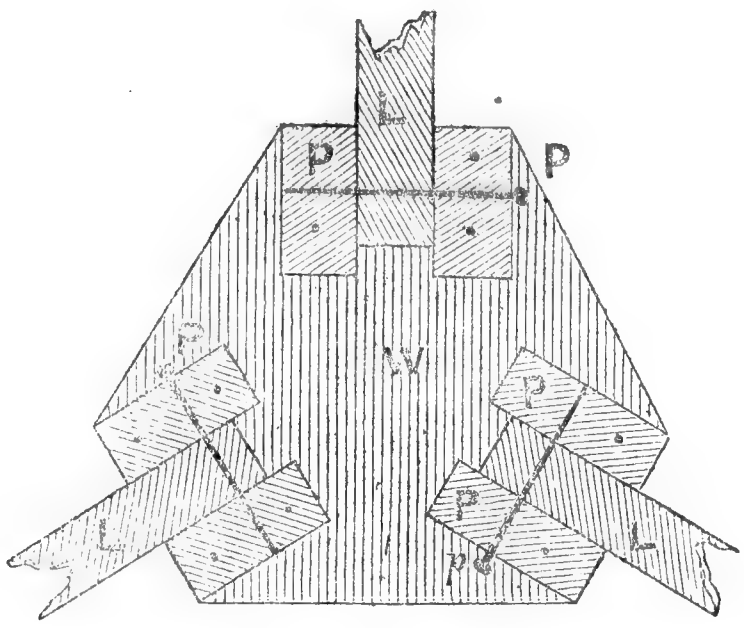
The researches of modern science have thrown much light on the subject of photographic lenses. Formerly the expensive achromatic double combination was considered a desideratum. It has, however, been shown that such a lens, three inches in diameter, produces a combination of one hundred and thirty different aspects of the object photographed; so that, in taking the portrait of a dog, his tail is represented as if transparent.

We recommend the reader to purchase a well-made mahogany French-polished camera, of the ordinary description (one with sliding or folding body not being desirable), with single back, for taking pictures six inches by five inches. Such an instrument will cost about £1. To have fitted therein a single achromatic lens mounted in brass, and affixed to the camera by a brass ring. The said lens to be provided with rack and pinion adjustment, focussing-frame, stop, and lens one inch and a half in diameter, diaphragmed to a quarter of an inch, price £1 1s. This camera is suitable

for views or portraits. A double back (15s.) will be found useful. If, when farther advanced in the art, the photographer wishes to produce larger pictures, he can obtain a complete camera for pictures, eleven inches by nine inches, for £1 17s. 6d.; and a single three-inch lens for same, for £4 10s.; extra double back £1 15s.

For stereoscopic pictures a camera of different construction is desirable. A stereoscopic camera complete, with compound achromatic lens, can be obtained for three guineas.

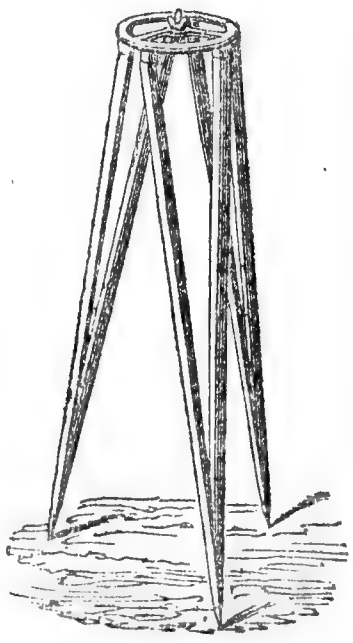
CAMERA STAND.



CAMERA STAND.

The *simplest* form of construction is shown in the accompanying diagram. **W** is a triangle of wood one inch thick, 10″×10″×10″, with the corners cut off. **PP** are pieces of wood 1″ thick, each 2″×1½″. These are nailed to the under side of the triangle. Pins (*p p*) passing through them form pivots for the upper end of each leg (**L**) of the stand.

Suitable tripod stands can be purchased. They are of ash, with metal ring at the top, and provided with a binding screw for fixing the camera in windy weather. Price 18s.; with folding legs for portability, £1 10s.



Head Rests for portrait-taking vary in price, from 2s. 6d. to £3 3s.

(*To be continued.*)

HOW DO FRUITS KEEP?

From many quarters we hear complaints of fruits keeping badly; and it seems a very general opinion, that the warm and kindly summer has been the occasion of it. Now, it is an awkward state of things that these very conditions, which are known to perfect the buds for the ensuing year, should be at the same time prejudicial to the preservation of fruits; but it would appear to be the case, and must necessarily lead many to examine the question, What influences the keeping of fruits?

Much, of course, depends on the aspect and climate the tree grows in; much on the character of the spring and summer; and something, perhaps, on the management of the tree; but still more has to be placed to the account of the fruit-room; and, probably, more still to the period in which the fruits were gathered. That climate has much to do both with the quality and keeping of fruits there can be little doubt.

As to quality, how often have those in northern counties been astonished to know that the *Winter Nelis* Pear was excellent from an ordinary standard; and the *Beurré diel* highly melting? I have grown the latter Pear for several years, both on standards and on walls; but I never yet knew it melting, albeit very fair-flavoured. Some other Pears might be named as seldom first-rate in the north, and which are highly reported of in the south: and all this goes to prove that Pears love warmth and sunshine; at least, the chief of them. And not only sunshine on the fruits, but on the very buds for the ensuing year.

As for the soil, I do not think that is much concerned in the present case, although it doubtless concerns the flavour, and assuredly the texture, of the flesh of fruits. But even this depends as much, in my opinion, on the mechanical character of the soil as on its qualities. The way in which soils hold moisture, and in which they part with it, is of immense importance as bearing on the character of fruits.

As to modes of keeping, there can be no doubt that a cool and dry room is favourable to their long keeping; but the misfortune is, that many of our best Pears become in such places a kind of petrifaction. I think there is no doubt that there is a period, keep them how we may, at which such fruits ought to be used—a period when they are better than ever they will be afterwards.

There is, doubtless, a period in which they are fitter to gather than any other; but this requires much observation to find out with regard to each kind. It is an old criterion as to fruit gathering, to judge by the colouring of the pips; but this, although a kind of clue, is by no means an infallible guide. It evidently proceeds on the assumption, that the flesh must at that period be in the most perfect state to house. But although the more saccharine condition commences about that period, it by no means follows that the fruit must keep the longest, and prove the more valuable after keeping. I think that an over-ripe state of the pips is more likely to end in mealiness of flesh on long keeping, than its possessing that degree of liveliness which is so much esteemed in fruits. Let any one gather such Pears as the *Easter Beurré* under such circumstances, and it will be found that they will be, by the beginning of December, nearly as mealy as a

boiled Potato. The parting from the stalk, too, is taken as another criterion; but this, I think, must not be implicitly relied on. This condition must surely point simply to the fact, that Nature has performed her intent with regard to the seed; and that the tree and its produce may fairly part company any time. If these things can be admitted, it becomes a question at what period ought fruits to be gathered? For my own part, I am sorry to say, that I cannot answer this on any set principle; and to do it otherwise, is to use no small degree of boldness.

It has been urged much of late, that the warm summer has been the cause of fruits decaying so soon: but this, in my opinion, is a very doubtful matter. It is more likely to be the unusually warm autumn which has hastened fruits to their maturity, and carried many in an untimely way beyond it. Since fruit in general was gathered, we have had a continuance of weather, which has been more like a fine September than November; the thermometer here has generally been from 48° to 56°: this is extraordinary for the time of year. The nights too, for two or three weeks in November, were ranging from 36° to 40°: this is most unusual for the period. Now, it must very naturally be supposed, that such must exercise no small influence on fruits already hastening to maturity. Between this and an average of 30° what a disparity! Thus, this autumn, the *Winter Nelis*, which, in ordinary seasons, comes into use in the end of November, and lasts until Christmas or into January, was ripe and in use by the second week in November, and was all over by the end of the month. The *Marie Louise*, which usually is a November Pear, suffered a similar fate, being all over by the second week in November. The *Glout Morceau* is now (December 3rd), in full perfection: these we did not think of using in ordinary seasons until nearly Christmas. *Beurré Rance*, too, strange to say, is now nearly fit for table, although generally a February and March Pear.

Of Apples, *Ribstons*, threaten to be over-ripe very shortly; *Nonpareils* are fit for table, and these used to be a Christmas-to-April affair: and so on with some others. One thing may be observed:—all Pears are well-flavoured and melting this season. Those usually good are excellent; and those which used to be middling, are first-class fruit.

Amidst these considerations, the question of stocks very naturally comes in view. I do not know how others have fared with their dwarf Pears on Quince stocks, but I find some kinds very poor in a warm summer, and to be liable to crack, and to become what gardeners term hide-bound, and this in the best of soil. We all know that the Quince roots are fibrous, and near the surface, as compared with those of the free or wild stock; and this circumstance points to their greater susceptibility of drought. I am of opinion that in all light-soiled gardens, a good deal of an adhesive loam should be used in the compost; and that good mulchings should be annually applied after a soaking May rain. This will both encourage and engender surface fibres, and protect them from extremes when produced.

Still, I am persuaded that if the free stock could be treated as it deserved, there would be less occasion for the Quince. To those possessing small gardens, and who do not understand Pear trees, the Quince stock is of much importance. The free stock, however, should be transplanted every year after the second, until the season previous to grafting or budding, in order to produce fibrous roots; for by no other means, as far as I am aware, could it be accomplished. Thus, about three annual transplantings consecutively, and each time the roots pruned—cutting away every coarse and downward root—the tree would be found to become almost as fibrous-rooted as a Quince; and would possess, in my opinion, a larger endurance.

Speaking of the keeping of fruits reminds me of a paper by Mr. Wighton in the number for Dec. 1st. It appears he has tried many experiments, but can draw no positive conclusion in favour of any of the various plans he has tried. He names one experiment—the trying them on damp turf. This, I suppose, was to imitate, as far as possible, the conditions a fallen fruit is frequently found under, having escaped the gatherer—being snugly ensconced amongst the decayed leaves of the tree. I well remember in former days having found fruit fresh in such situations, and that long after those carefully stored had decayed. But one thing may be remarked: they are apt to become somewhat insipid in such a situation. Mr. Wighton bears testimony to this fact; and his general remarks are worthy of much attention, for he is a practical man of long standing. R. Errington.

THE ESPERIONE GRAPE VINE.

Who could have foreseen the turn of the tide, when, in 1852, I planted my experimental Vine to see whether the English or the Russian gardeners came the nearest in their practice to the theory of Vine culture? But I had stirred the cauldron after the manner of a man-cook, and not before it was "high time;" as it would seem from the thick parts of the contents which were burning at the bottom of the cauldron, besides the quantities which were sticking round the sides, going to "wastie," as poor Sandy McPharlan, the "daft body," would say. But, again, if ever one stir the English, the Irish, or the Scotch, in the matter of fact or figures, the Rose and Shamrock will put forward the Thistle side of the question, and prick him to the very bottom of his ribs. I had no more intention at the time of stirring up, or stirring round, the contents of this or that kettle, than I have at this moment of troubling you with the account of the weight or strength of the artillery which was brought to bear on this question from either side of the "borders." Suffice it to say, that there was no general at Sebastopol, on either side, with whom I should sooner measure cold steel than this general of true English blood and pluck, who never spares, or cares to be spared, himself; and in the following narrative I have his entire consent to "cull anything from what he said bearing on the subject," except the strength of our artillery, "which was only for ourselves."

He opened the battle with this broadside:—

"You ought to know how the *Esperione* Vine can be distinguished; (by the way, have I not heard somewhere that the Grape and its name are both Spanish?) and so I send you two leaves—the purple from the *Esperione*, and the other from the *Hamburgh*. The Vines are standing side by side, in pots, in the house. If you want to see Grapes, you should come here. On my sandy slopes, on *Vines tied to stakes*, I have had bunches weighing 2 lbs. 2 ozs. No matter how they are pruned, they *will* bear.

"Three times out of five the *Hamburgh* has been sold for *Esperione*, which I know to my cost."—Thos. Rivers, *Nurseries, Sawbridgeworth.*

To gain time to "organise" my resources, I answered, "If *you* have been growing and selling this purple-leaved Vine (the *Black St. Peter's*, to all appearance,) all these years, no wonder the gardeners could not make out my Grapes in Willis's Rooms last week;" and this encouraged him to offer a challenge "to clear up the matter."

"I enclosed the leaves of the Vines to you in a sort of

frolic, and am most glad that I did so; for we must now clear up the matter.

"About twenty years or so ago, I had the *Esperione* from the gardens of the Horticultural Society. This proved a most abundant bearer, and ripened well in the open air. Three or four years ago, I found that my old tree had died, and that I had lost the stock. I inquired one day of Mr. Donald, of Woking, if his father had grown the sort. He said, yes; and that the stools were in the nursery. I had some plants, and propagated them; but, to my surprise, instead of dying off purple, as my old sort had done, the leaves were yellow to the last, and exactly like the *Hamburgh*. I was dissatisfied, and felt sure that I had not got the true sort; and so, last spring, I wrote to the Messrs. Osbornes, of Fulham. They sent me some plants from their old stools. From these came the plant from which I gathered the leaf tinged with purple, sent to you the other day. Those I have are only fifteen inches high, and yet *nearly every bud is a fruit bud*. Say, how could you think me so verdant as to send you a leaf of *St. Peter's*?

"In my collection of about one hundred varieties, there are twenty that die off purple. I enclose a yellow leaf from a plant in a pot under glass, Donald's stock, which I think untrue; a purple leaf from Osborne's stock, which I think true. Now let us go to work, and clear up this matter. I am, this time, serious and seriously,"—Thos. Rivers.

Here we have it in black and white, that the Horticultural Society sent a wrong Grape to Mr. Rivers twenty years back; that Mr. Osborne, of Fulham, was in the same boat as late as last spring; and that an old stool of the true *Esperione* existed in Mr. Donald's nursery, at Woking, four years since; also, that up to last October, Mr. Rivers believed the purple-leaved kind to be the true *Esperione*. To which I replied in ancient statistics from Downton Castle, Pitmaston, and my own once-celebrated plant; and all three, as clear as crystal, were from the *Esperione* of *George the Third*, the first plant of the kind that ever was described. And it will be equally clear, from Mr. Rivers' next letter, that I thus made a powerful impression; that *he* "also now doubts:" and it clearly shows that "we" have two kinds of most excellent hardy Black Grapes, in general cultivation, under one name, certain.

"When I wrote my first jocular note to you it was just after reading your doubts about your *Esperione* Grape; now, as all my life (and you and I are no chickens), I had concluded the dying-off purple colour as the test of the true sort. I felt amused at the doubts, but *I*, also, now doubt, my purple-leaved sort. I have always considered it as one of the most prolific and hardiest out-of-doors Grapes known, large bunches, round berries, much looser in the bunch than the *Hamburgh*; in fact quite a distinct variety. Now, which is the true sort? Yours, which is like the *Hamburgh*, its leaves dying off yellow, or Osborne's which is distinct, and dies off purple? I am *much* interested in the question, and shall have much pleasure in sending you a bearing Vine of Donald's sort, which I think is yours; and Osborne's sort, which, I think the true.

"I often wished last spring that I could show you two spring-flowering bedding plants—most charming things. *Alyssum gemonense*, and *Iberis corifolia*. The first forming a dense mass of glorious *golden* (strictly) yellow; the other of pearly white. I received them from Belgium, when I used to collect such matters; for I had, and still have, a large collection of harbaceous plants."—Thos. Rivers.

By these presents, therefore, be it known to all whom it may concern, that I have thanked Mr. Rivers before now privately, and now, not privately, thank him again for plants of these two good hardy Vines, and for four more hardy rare kinds; also for lots of the "charming spring flowers." Moreover, be it also known, &c., that I must, sooner or later, apply to the "British Pomological Society" to send me down a fit and proper person to superintend a British vineyard at Surbiton, if the Horticultural Society do not, in the meantime, pay more attention to hardy wall Grapes than they have done in times gone past.

Mr. Rivers having expressed "much interest in the question," I sent out letters to all parts of the country where I thought a stone could be turned; and from a natural predilection to witchcraft, derived from the lineage of Ossian, I sent a special messenger to the oracle at Delphi, who confirmed my own experience. But Mr. Rivers, being more of a practical man, sends up to the Horticultural Society at once; and Mr. McEwen returns a leaf, and says to Mr. Rivers, "the true *Esperione* dies off purple, as you see by the enclosed leaf from our plant." Being thus "supported" by the "right wing" of the Horticultural, the gallant commander charged like a whirlwind, and shook all my bastions to the very foundation. The contest, on both sides, was beautifully sustained at this momentous "crisis;" but, recollecting the Roman adage that "fortune favours the brave," I replied, that the whole weight of the Horticultural Society was with me as a feather in the balance against the evidence of my own senses; that "my foot was on my native heath, and my name was McGregor;" that I rested my claim entirely on one single fact—that of my having grown the *Esperione* from the very plant which Mr. Aiton first described, but that my information respecting the kind being a seedling at Kensington was incorrect; that I had traced it to the first planting of the "vineyard" at Hammersmith by the Messrs. Lee and Kennedy, goodness knows how far back; that it was No. 12 in their list of 129 kinds of Vines; that it was also in the Brompton Park Nursery in the year 1783; and that it was "as old as the hills," for it is mentioned by Langley, who gives a plate of it, without describing it, but says that it ripened on a south-west wall by the 20th of September, 1727, just 130 years since; although no one attempted a description of it till Mr. Aiton had it fourteen years under his eye in the Royal Gardens, and then made out a full description for the Transactions of the Horticultural Society. To all this, and much of what is incidental during "troublesome times," a passage from the next letter is all that is wanted to connect the narrative of the engagement.

"I have looked into Langley: my edition is 1729. Sure enough the *Esperione* is figured there—the bunch exactly like the sort I am fighting for—with looser shoulders than the *Hamburgh*; and the leaf exactly like in its lobes and serature. Nearly 130 years are far beyond Aiton and any of our other authorities. Miller does not give it. Could the purple be Langley's *Esperione*?"—T. Rivers.

As to which was Langley's *Esperione* it is needless now to surmise, as he did not describe it. Mr. Aiton's description is the original one, and, therefore, the lawful; but Hoare describes it better than Aiton: "Bunches and berries closely resemble, in size and shape, the *Black Hamburgh*. The leaves die upon the Vine of a rich orange hue." Hoare had a nursery for hardy Vines on Surbiton Hill; and, according to a doctor here, Hoare had the *Esperione* from Mr. Aiton, through a clergyman, in 1819 or 1820; and he (the doctor), believes that Hoare sold hundreds of the *Esperione* to amateurs. Who will be the first to send me an eye from Hoare's *Esperione* that has not passed through a second hand? I have no faith in any Vine, which I cannot have from the original, without proving it myself. Who can say that the late Mr. Donald, of Woking, was more fortunate than the Horticultural Society, who sent a purple-leaved kind to Mr. Rivers for it? No doubt, both are very good hardy kinds, and the best way is to call them the yellow-leaf and the purple-leaf *Esperione*; that is to say, when we are certain that we have the true yellow kind. Is there

no old garden about Windsor where a plant exists from the royal garden, which was, probably, levelled down when the present garden was made? Mr. Ingram must recollect the Windsor *Esperiones*, and what came of them at last. D. Beaton.

FLORISTS' FLOWERS.

THE PHLOX.

Most of the writers in The Cottage Gardener strongly recommend the Phlox for flower gardens; yet I seldom meet with a good collection well managed. I think there is no class of herbaceous plants so well adapted for general cultivation. To show them off to the greatest advantage, they require to be grown in masses, so that each variety may have space enough to display its beauty. I see them in most gardens grown in single clumps, scattered amongst other flowers or shrubs. Here they remain year after year, the side shoots spreading more and more in search of nutriment from the centre, till that perishes, and the plants become unsightly, sick, and weak. In order, as far as lies within my power, to redeem these lovely flowers from such gross neglect, I purpose to give a course of culture, together with hints for grouping, and a list of the best kinds known at present.

The Phlox has been greatly improved of late years. New varieties of superior form, size, and colour have been raised from seeds. I apprehend, however, that these varieties will not come true again from seed; and, therefore, to preserve any good seedling, it must be propagated from cuttings or division. It will be necessary to arrange my instructions in some order, so that they may be more readily understood and stored up in the memory.

1st. *Soil and Situation.*—Such kinds of Phlox as I am recommending are perfectly hardy, and easy to cultivate. The best soil for these is a rather strong loam, well mixed with sand, and enriched with decayed leaves and hotbed dung. The ground should be well drained, and trenched eighteen inches deep, then well mixed with the sand and manure. It will be improved greatly if it be laid up in ridges, or very roughly dug, in the autumn, and allowed to lay so till spring. The situation should be neither very high, nor very low; and the plants must be sheltered from high winds. Shelters of evergreens at a few yards' distance will be the best of all protection from high, boisterous winds. The aspect is not of much importance, but that facing the east is to be preferred; because the south is too hot, the west too windy, and the north too cold. Of course, protection will modify any of these aspects, providing the sun has free access to the Phlox garden on east, west, and north aspects.

2nd. *Propagation.*—Phloxes may be increased three ways: by seed, by cuttings, and by division.

By seeds: To raise new and improved varieties, seed must be resorted to. The raiser had better by far save the seed himself; he should choose the best-formed and brightest-coloured varieties to save seed from. In this class of florists' flowers there is great room for improvement. We have no scarlet ones, no pure yellow, no blue, and no purple, nor yet dark moreen; yet I am fully persuaded these colours might all be obtained by diligence and perseverance. As soon as the seed is ripe it ought to be gathered immediately, or it will be scattered, as the seed vessel is an open one. As it will be autumn before the seed is ripe, it will be wise to save the seed till spring. Clean it well from the husks, and put it in paper, in a drawer in a dry room till it is wanted. Though the Phlox is hardy, it will be advisable to sow the seeds in shallow wide pans, placed upon a gentle hotbed in March. They will soon come up, and then should be gradually inured to bear the open air. If time and space will allow, it will be a good plan to prick out the seedlings as soon as they can be handled, in similar pans or shallow boxes, filled with light compost firmly pressed down. Give each plant an inch square to grow in and establish itself. Place such pans or boxes under a cold frame or pit; give water when required, and plenty of air on all favourable occasions. Whilst these seedlings are growing and acquiring strength, let a piece of ground be prepared for their reception; lay it out in three-feet beds, with a-foot-and-a-half walks between. Enrich it with a compost of decayed leaves, dung, and sand. Then, as soon as the weather is mild, and the plants strong enough, bring them out, and transplant them into the beds. Plant them in rows across the beds, five inches apart, and about four inches from plant to plant in the rows. Give water if the weather be dry; and look after slugs and grubs, and other vermin, and destroy them. Then, in autumn, you may expect some to bloom. Mark those carefully that are of a circular form, petals flat, and head of flowers compact. You can scarcely judge the average height they will grow, till the following year. The most useful height is from a foot to a foot and a half. Taller growers, though, if good in other points, must not be despised, they are always useful as shrubbery ornaments. Any flowers that may come in the beds of seedlings that are small, with pointed petals, and bad, indistinct colour, pull up and throw away at once; they are not worth even giving away. As the blooms open, name each variety to be saved, describe the colour, form, height, and habit in your garden book, and take care of plants so named.

The safest plan is to take them up as soon as they have finished blooming, and keep them under a cool shelter till spring. T. Appleby.

(*To be continued.*)

CLAY-CROSS VILLAGE GARDEN EXHIBITION.

I. *Object and Funds.* To encourage useful and ornamental gardening, and promote habits of industry, and domestic tastes, among the working classes.

It is supported by the subscriptions of Members, the donations of friends, and the money received at the doors for admission on show-days.

II. *The Society* consists of such inhabitants of the above district, together with those of the neighbouring districts of Normanton, Calow, and Wingerworth, as subscribe to its funds, and agree to be bound by its rules; and is managed by a Committee chosen equally from among the Honorary and Ordinary Members.

III. *The Members* are of two classes. 1st, Honorary Members, who subscribe five shillings or more yearly. (These need not be residents; and while they are invited to become Exhibiters, it is not intended that they shall receive prizes in *money* from the Society's funds.) 2nd, Ordinary Members. Those who pay one shilling yearly to the funds of the Society.

Subscriptions are due on the 1st of May; and if not paid by any Member within a fortnight of the show-day, such Member will be disqualified from showing on that day.

IV. *The Show-days* are two every year. The first in the beginning of July. The second about the middle of September. The day of each Show is fixed according to the forwardness of the season, of which due notice is given.

The Shows are held, by permission, in the field near the private road leading to Hasland Hall.

V. *Specimens.* All specimens shown for the purpose of gaining any prize, must really belong to the Members showing them; and must have been raised by him, or must have been in his possession at least two months before the Show.

Any Member exhibiting specimens contrary to this rule will not only forfeit all claim to any prize awarded, but be declared incapable of competing for prizes at any future time.

Specimens which cannot be shown for prizes may be shown for ornament or sale, provided they really belong to the party showing them, and have the owner's name, or the words "not shown for prize" distinctly marked upon them.

No prize will be awarded for a specimen deemed by the Judges unfit for exhibition.

The same specimen cannot gain more than one prize in a year; and, if shown again, should have the owner's name marked upon it.

No Member can have two prizes for two different specimens of the same article. Professed gardeners cannot show specimens for the purpose of gaining any *prize in money*.

VI. *Judging the Specimens.* Such Judges are appointed as are thought most likely to judge well and impartially. No specimen belonging to any Judge can be shown for prizes in that Show for which he is Judge. The room shall be ready for the Judges at twelve o'clock; and no person but the Judges shall be in the room at the time of judging.

No specimen which has the owner's name upon it, or the owner of which is, or has been in any way, made known to any of the Judges, or which has upon it no ticket, can gain a prize.

No Member who openly expresses dissatisfaction at the decisions of the Judges will be allowed to exhibit again until after the next Show.

The specimens with White Tickets (Honorary Members), and those with Red Tickets (Ordinary Members), shall be judged as two distinct classes; each specimen to be judged against those only which bear a ticket of the same colour.

VII. *Admission to the Shows.* The gates are open to the public at two o'clock. Every Member has free admission for himself and friend. Visitors pay sixpence each. Cottagers one penny. Children, whether in arms or not, half-price.

VIII. *Rules for preventing Confusion.*—The show-room is open to receive specimens at 8 o'clock: and specimens not brought before 10, will be refused; or, if shown, must have the owner's name upon them without a ticket, and cannot gain a prize.

Each specimen as it is brought is entered in the show-book, with the owner's name and number for that Show; and a separate ticket, answering in colour and number to the entry in the show-book, is affixed to every specimen brought by that Member. Every Member must bring in all his *specimens at one time*; and must see that a ticket with his own number is put upon each of his specimens. Not more than two Members with specimens are allowed in the room at the same time.

At the end of the Show. No Member must move or take away his own specimens until some person, appointed for the purpose, gives each specimen to its owner. The prizes of Ordinary Members will be first paid, and their specimens removed; after which the Honorary Members will receive their specimens.

All specimens, except plants in pots, will be sold for the benefit of the Society.

First Show.—*Vegetables.*

			s.	d.
Beans, broad ...	12 pods, all one sort	1st prize ...	1	6
do. ...	do.	2nd ,, ...	1	0
do. ...	do.	3rd ,, ...	0	6
Kidney Bean ...	30 pods	1st prize ...	1	6
	do.	2nd ,, ...	1	0
	do.	3rd ,, ...	0	6
Cabbages ...	2 heads	1st prize ...	1	6
do. ...	do.	2nd ,, ...	1	0
do. ...	do.	3rd ,, ...	0	6
Cauliflowers ...	2 heads	1st prize ...	1	6
do. ...	do.	2nd ,, ...	1	0
do. ...	do.	3rd ,, ...	0	6
Cucumbers ...		1st prize ...	2	0
do. ...		2nd ,, ...	1	6
do. ...		3rd ,, ...	1	0
do. ...		4th ,, ...	0	6
Lettuces ...	3 heads	1st prize ...	1	6
do. ...	do.	2nd ,, ...	1	0
do. ...	do.	3rd ,, ...	0	6
Onions ...	6 in bunch ...		1	0
do. spring sown	do.	1st prize ...	1	0
do. ...	do.	2nd ,, ...	0	6
do. autumn do...	do.	1st prize ...	1	0
do. ...	do.	2nd ,, ...	0	6
Peas ...	30 pods	1st prize ...	2	0
do. ...	do.	2nd ,, ...	1	6
do. ...	do.	3rd ,, ...	1	0
do. ...	do.	4th ,, ...	0	6

[The above Rules of the Village Society are, as they ought to be—simple. The success of the whole affair, will, however, depend much more on the prudence and kindness displayed, than upon any mere rules, however well they may be filled for the purpose. Two things are worthy of note: Honorary Members and gardeners who are requested to send specimens for exhibition, are to receive *no prizes in money*. We think that for a Village Society, whose aim is to promote habits of industry amongst the working classes, there ought to be no prizes given, except to the villagers. Even marks of honour will be of little value there; therefore, why retain the word *prizes* at all? Your doing so, will lead some of the wise villagers to think there may be something like a piece of plate in the back ground, of which they are permitted to know nothing. The fifth rule very properly insists, that all specimens shown, should either be raised, grown by, or held in the possession of the exhibiter for two clear months before the Show; and here a great difficulty presents itself: the glory and distinction of a prize sometimes are apt to make havoc with honour and honesty. Sad, it is so, but no less true than sad. The bitterest scenes at these otherwise-delightful gatherings, arise from the imputations and denials respecting such practices; and who can decide when little evidence can be adduced, except assertion on either side? So insufferable did the whole thing become at length at the great Chiswick Shows, that the rule was completely abandoned. Dr. Lindley, so far, rightly imagining, that if a man brought articles a day before the Show, and took a prize with them, that, nevertheless, the Society rewarded the Grower, as he must have known the value of the article, and got repaid accordingly. It would not do for any private individual to mention cases, in which such doings, as ceasing to be looked down upon have been pretty regularly resorted to; and hence the honour of a prize has stood against the name of a man who had had little or nothing to do with the cultivation of the article, though such an idea never entered into the consideration of the general public. In such a Village Society, care must be taken that *the cultivator only* is rewarded.

Most of the prizes range from 1*s.* 6*d.* to 6*d.*; only one or so rising to half-a-crown. And we think one of 10*s.* for a collection of the best vegetables, and 5*s.* for the second best, would furnish a great stimulus.

Another thing that will greatly insure success is something like a uniform principle in judging; taking size and quality as great items in the cottagers' productions of vegetables, &c.; and quality and freshness in that of the Honorary Members. It would take up too much room to-day to give such lists as the founder of this Society wishes for, and which we esteem of little value, as every district has its favourites; but he will just glance at a few, for showing in what state they should be to meet the Judges' approbation.

Bean Garden.—The *Broad Windsor* is the best. *Early Long Pod* will be in July. *Johnson's Wonderful* is one of the most showy and prolific. For a cottager, the Bean should be full-grown and firm, and just beginning to harden; most gentlemen would prefer them younger.

Bean, Kidney.—We have met with no better kinds than the *Cream-coloured* and the *China*, or *Robin's Egg*. The Beans should be equal in size, straight, full-grown, but crisp, and breaking easily in two. The same as to *Runners*. The *White Runners* and *White Dutch* come in well as prizes: the pods come so long, regular, and straight.

Cabbages.—For all purposes we find nothing to beat *Atkins's Matchless*, which ought to come true from Joyce, of Northampton. We have seen men disappointed because they did not take a prize with a huge cow-like Cabbage, with leaves extending nearly a yard on each side of it. Some four, or half-a-dozen, of these compact, upright, short-leaved *Matchless*, would have grown in the same space. The Cabbage must be firm-hearted, not cracked nor decayed.

Cauliflower.—Nothing beats the London market. The larger the head the better, if firm and compact, and no open place in which you could wriggle even a stocking-needle. The whiter and more delicate-looking the better.

Cucumbers.—*White Spine* and *Black Spine*, numberless; must be straight, short at the shoulders, crisp and young, and no brown at the points.

Lettuce.—Generally *Cos*, *Paris Cos*, *Radie's Cos*, *Brighton Cos*, and *Black-seeded Brown Cos*. Centre well filled up,

blanched, neither run nor decayed. Mind, the knife will pass through their middle.

Onions.—*Tripoli* and *Spanish* for autumn. *Reading, James Keeping*, &c., for spring. These must be ripe, equal, and be free of thick necks. A "knowing cove" showed very large autumn Onions for spring ones. The necks were neatly twisted, and seemed to have no neck in them. The Judge untwisted the outside layer left, and showed exposed the neck that had been cut, and thus dexterously concealed. The cunning chap attempted to bluster, but got laughed down.

Peas.—Every district has its favourites. Nothing will stand before the best *Marrows*, as *Jeyes' Conqueror, British Queen*, very tall; and such dwarfer middle-height kinds as *Milford Marrow* and *Mammoth Marrow*. The Peas must be full-grown, and yet not hard. For gentry, they must not be half-grown, and be no harder than pellets of butter.

Potatoes, Kidney.—*Ash-leaved, Napoleon, Jackson's Improved*, are as good early as late; and each district has some that do there best. The number must be equal in size, free of mark and disease, perfectly ripe and smooth, hardly showing where the eye or buds are.

Potatoes, Early Frame.—*Handworth Seedling, Round, Ash-leaved, Bread Fruit*, &c. The conditions required are ripeness, cleanness, fair size, and freedom from eyes deeply sunk, because these involve waste in preparing them for the table.

Radishes.—*Red and White Turnip, Long, Short Top*, and *Wood's Early Frame*. Clean, young, and crisp.

Rhubarb.—Size being the thing most aimed at, nothing beats *Myatt's Victoria*. The *Elford* is best for early work. The stalks must be as equal as possible.

Turnips.—*Early Dutch, Early Stove*, and the *Strap-leaved* Turnip—a kind with tall, upright leaves. These, however large, must be crisp, young, without flaws, and solid to the core.

Parsley, Curled.—And the more curled and compact the better.

Artichokes, Globe.—Ought to be firm, compact.

Cabbage, Red.—Colour good, no crack or fissure; head as firm as a cannon-ball nearly.

Carrots.—*Early Horn, Altringham, Long Red Surrey*. The roots large, symmetrical, clean, straight, and free from horns.

Parsnips.—*Hollow-crowned, Guernsey*. Qualities as for Carrots.

Celery.—*Coles's Red* and *Seymour's White*. Solid, blanched, no bolting, no decay at the heart.

Leeks.—*Musselborough* and *London*. Large, white, well blanched.—R. F.]

PERPETUAL SPINACH.

In Mr. Fish's account of the gardens of Sir Wm. Middleton, in The Cottage Gardener of November 17th, he wishes me to give some account of a Spinach we were talking about when I met him there, which I will gladly do.

The Perpetual Spinach.—I have grown this four years, and have found it a very useful one, more especially in the winter of 1854 and 1855; when my winter Spinach being completely killed, and several other gardeners in this neighbourhood being equally unfortunate in losing their winter crops, I was pleased to be able to help them out of their difficulties, by supplying them occasionally with some of my Perpetual Spinach. In appearance it very much resembles the White Beet, but is not so large in the leaves, neither is it so much ribbed. It should be sown in the last week in March, or in the beginning of April, in drills about two feet apart; the plants to be thinned to about a foot apart in the row. It grows very rapidly, and will be fit to pick from very soon; and will continue to furnish a good supply all the summer and winter. The following season it runs to seed. It would be found very profitable to persons with small gardens, as it is very productive, and a few rows would give a supply for so long a time, which entirely does away with the successional sowings the other sorts require, and the uncertainty of losing your winter crop. This sort has never failed since I had it. The name I had with it, was "Perpetual Spinach;" and so, as a matter of course, that name I give with it.—Edwd. R. Carpenter, *Barr Hall Gardens, Birmingham*.

HOLLIES, TRANSPLANTING THEM AND RAISING THEM FROM CUTTINGS.

How is it you have erred in replying to your correspondent, Joseph Langley, page 135, in regard to Hollies? We beg to say, Hollies transplant well now if with good balls, although the *end of April* is the best time; and we choose dry, open weather, for planting anything in preference to wet, unless "soddening" the roots is the desideratum.

Cuttings of Hollies strike very freely, and make the *best* plants; and we can shew you whole quarters of them, from six inches to five feet; and also about 3,000 cuttings of this season, under handlights.

We are delighted at catching you in error at times. We consider your journal the *very best practical* work on gardening matters, but it proves the old adage about the weasel, &c.—Wm. Cutbush and Son, *Highgate Nurseries*.

[Many thanks. We recorded the results of our own experience, though we knew many years since a nurseryman at Oxford, noted for his Hollies from cuttings. We heard of the success of our correspondent in striking Holly cuttings, and one of our travelling professors took note of it; still we adhered to our rule to record only what we know to be true. Now that Mr. Cutbush himself declares the fact accomplished, it is no longer our duty to hold to our former conviction. In reference to planting large Hollies, they may be planted, having good balls, any day in the year. In respect of the weather, dry weather is the best for *planters* in general; and moist, mild (not rainy) weather, the best for all evergreens in particular.]

CATALPA PODS.

Mr. Robson's account of these pods reminds me that it was nearly passed off, in Willis's Rooms, as a new kind of *Kidney Bean* by a notorious gardener the other day; and were it not that Mr. Thomson's eye "caught it," and detected the imposition in time, we should have had paragraphs and questions about a new *Kidney Bean* which has a very long sharp-pointed pod, and is more round than the pods of older kinds; nine or ten inches long; and of the size of one's little finger.

I saw it also this season, for the first time. Mr. Marrony, gardener to Lady Lambert, brought me some very handsome pods of it.—D. Beaton.

NOTES FROM A SMALL GARDENER.

No. II.

Sometimes autumn cuttings of Verbenas do not get on well in spring. Last March I was very successful by the following plan:—When I separated a potful of cuttings, I planted them singly in three-inch pots, so that the first leaves above the roots should touch the soil. Young roots were emitted which converted the autumn cutting into a strong spring-rooted plant. Do not put silver sand on the surface of the soil where there are seedling Calceolarias, unless you wish them to damp off.

Of all the numberless Verbenas the best for a small garden are *Lord Raglan, Purple King, Mrs. Holford, Defiance, Brilliant de Vaise, Duc d'Almida*, and *Rougierii*. These seven are of different colours, and will never disappoint.

The scarlet Geraniums may also be reduced by a small gardener to six, namely, *Tom Thumb, Reidii, Punch, Excellent, Trentham Rose*, an improvement on *Judy*, and *Baron Hügel*.

If we could but reduce the Rose lists! Here are twelve good ones which will suit most:—*Général Jaqueminot, Prince Léon, Lord Raglan, Géant, Baron Prévost, Bourbon, Queen, Paul Joseph, Gloire de Dijon, Dupetit Thouars, Augusté Mie, Souvenir de Malmaison*, and *William Griffiths*. These are free flowerers, hardy, and first-rate, and of different colours.

The Cineraria and Chrysanthemum list shall be next looked to.—W. F. G.

ECHEVERIA QUITENSIS.

Received from Isaac Anderson, Esq., of Edinburgh, in August, 1851.

A bright green, smooth, succulent plant, forming stiff, erect stems about six inches high, clothed by imbricated spathulate leaves, with an almost circular base, attached to the stem only by one bundle of fibro-vascular tissue. The flowers are in stiff, close, erect racemes, shorter than the lower bracts, which resemble in form the leaves, but taper less to the base. Sepals five, longer than the pedicel, equal, linear, acuminate, rather shorter than the corolla, which forms a scarlet five-sided pyramid, opening very slightly at the end into five acuminate lobes. Of the ten stamens, five stand in furrows of the petals, and five are distinct.

This is evidently an *Echeveria*, as De Candolle surmised, and not a *Sedum*. During the summer it does very well on rockwork out of doors; but it is probable that it should be treated as a greenhouse, shrubby, succulent plant, requiring the same kind of soil and treatment as *Echeverias*. It is easily increased by cuttings, and seeds, which it ripens abundantly.

When grown out of doors, though pretty, it is not a very striking plant. It flowers in August. How it will look in a greenhouse is not ascertained as yet.—(*Horticultural Society's Journal.*)

BEDROOM DECORATIONS.

I am always much interested to read the different experiences and opinions respecting the application of horticulture, especially of that order of plants *Filices;* and few can enjoy more than myself the study of these beauties of Nature. They must form a source of pleasure and gratification to every mind; but more so on being viewed with a Christian spirit, when they seem to form such "voluminous leaves" of sermons for our instruction and edification.

But, enthusiastic as I am in this study, I have not gone so far as to have forgotten that excellent old proverb, instilled into me with an occasional unerring stroke of the scholastic cane, that "there is a place for everything (cane included), and everything should be in its place."

This remark is called forth by a letter in a late number of your valuable journal (just come to hand) on "Bedroom Decorations;" wherein the writer advocates the introduction, among the furniture, of Ferns, statues, flowers, rockeries, and such scientific apparatus and things as I should supply, did I wish to transmogrify the place into a small museum.

In favour of his proposition he urges that,

> "Whatever, cheerful and serene,
> Supports the mind, supports the body too."

Now, if that be the principle on which he proposes to supply the dormitory with "green" furniture, I consider one might most economically (during the present financial crisis), dispense with the extravagance of using bed and its adjuncts, by spending the night in his conservatory, supporting the body through the medium of the mind; with the study of Nature's bounties to the accompaniment of a quiet Havannah; very cheerfully, and "all serene."

As the writer begs to put it to your readers "Whether his new style of decoration is not more desirable than the old *régime*," I beg to reply, that in my opinion a room thus furnished would be very suitable for an invalid, who may have to spend whole days therein, and would tend to amuse his mind; but I do not think it an advisable or a salutary mode of setting out a bedroom for a healthy individual.

I take it, that the majority of mankind are men of business, who, like myself, retire to their bedrooms at night tired, and ready to make use of the apartment for its legitimate purpose,—*i.e.*, sleep; but not at all inclined there to study the "Hairy Ferns," or "Mossy Rocks," and other objects in the museum; so that the new bedroom decoration would be lost to them that night.

Then, in the morning I am an advocate for early rising; and would not have a display of Ferns or other things to keep and amuse one in bed after waking; or to divert one's attention when half-dressed, at the expense of future bronchitis; or to keep him in the room after the completion of his toilet; when, if he must study the floral and fernical beauties of Nature, he may do so more healthfully out of doors, or in another proper place—the fernery or greenhouse.

The new system would increase the attraction of the sleeping apartment; and I consider the length of time spent there at present is one of the great evils of the day. In fact, the sooner out of doors in the morning the better: an over amount of sleep rendering the mind inactive and the body effeminate—like Mrs. What's-her-name's tea, so weak that it could not run up the spout.

My notion of a bedroom is, that it should be furnished consistently to its purpose, viz., that just the requisite amount of sleep may be enjoyed therein with healthfulness and comfort, and no more.

From these few remarks, perhaps, you think I would advise a plain workhouse furniture: that would be utility unadorned, in the plain sense of the word. But I advocate no such thing. My room is, I flatter myself, as comfortable as any one's; utility and comfort being combined artistically.

Have flowers, Ferns, rockeries, and statues by all means; but what I want is, to keep them in their proper places; and *not* turn my ewer out of the basin to form a gold-fish-pond and aquarium; nor my shirts out of the drawers to form receptacles for rockeries: nor to construct "hanging gardens" to my clothes' hooks, as a substitute for the fly-catchers.

In fact, I simply ask to be allowed conservatism in my bedroom decoration; but "ye gods" forbid that I should have conservatory decorations instead.—IN STATU QUO.

ONCIDIUM TENUE.

RECEIVED from G. U. Skinner, Esq., in April, 1849, from Guatemala.

This has so very much the structure of *Oncidium tenue*, that it can only be regarded as a variety; but it is one of greater beauty than the original. The panicle is much more branched; the flowers are larger, paler, with two distinct triangular spots at the base of the lip instead of broken blotches. The wings of the column are, moreover, strongly toothed; and the base of the lip is wider. The singular thinness of the pseudo-bulbs, and the short, broad, thin leaves, render the species among the easiest to recognise.

In the accompanying figure, *a* represents the plant reduced in size, *b* the back, and *c* the front of a flower of the natural size, and *d* a cross section of a pseudo-bulb to show its thinness.

It requires to be potted in fibry peat, and with a small portion of half-decayed leaves; must be perfectly drained, and kept in the coldest part of the stove. It is increased in the usual way, when the plant is large enough for that purpose. It flowers in April and May. It is one of the best of the small kinds of *Oncidium*, remaining rather long in bloom.—(*Horticultural Society's Journal.*)

Oncidium Tenue.

ACROCLINIUM ROSEUM AND ITS CULTURE.

THERE have appeared in several of the late numbers of THE COTTAGE GARDENER, questions relative to this plant; and not seeing the same answered, I think the following will be acceptable to those, at least, who asked the question, and perhaps to many more.

The plant I have had flowering with me through the last part of the summer and autumn, from seeds sown last spring; and I think it a plant so deserving, that it ought to be in every collection where there is convenience to have it. It appears to be an annual, for most of my plants have ripened their seeds and died down level with the soil; but some of them are as fresh as ever. The seeds were sown late in the spring, in pots, just covered with light soil, watered and placed upon a shelf in a warm house, in a temperature ranging from 65° to 75°. The seed had not been sown more than a few days, when the seedlings made their appearance above the soil; and in as short a time after, were sufficiently large to pot off, which I did, three in a small 60-pot, watered them gently, and placed them again on the same shelf to encourage them a little: but they had not remained long in this place, before I saw that they must be moved to a cooler house, or pit, or they would all be drawn and spoiled. This was done; and in a few days they quite delighted in all the fresh air they could have, and required a shift, which they received from the small sixties into forty-eights. I used the same compost as they were then growing in, namely, two parts loam and one of leaf-mould, and thoroughly-decayed dung in equal proportions.

The plants grew amazingly; and in a few weeks those of them that were kept in-doors were showing flower. Some were turned into the ground in the open air as soon as they began to get established in the forty-eights; and these, although they did not flower quite so soon, yet they grew rapidly, and repaid for the lost time. I must tell you, that I kept them together in threes, as I first potted. But, of course, this is optional; and those in pots were not shifted again, but flowered in the forty-eights with the assistance of a little liquid manure now and then.

The flowers are produced at the ends of the shoots—

separately—of a very pretty pink colour, about an inch and a quarter in diameter,—and from six to a dozen flowers open at a time on each plant. They very much resemble the *Aphelexis* flower, and retain their colour and substance after being gathered for a length of time. They are, in fact, some of the "Everlasting Flowers."—W. Reeve.

THE PHOTOGRAPHIC LENS.

I am desirous of making a few remarks upon Mr. Copland's "prefatory" observations on "Photography for the Many;" not with a wish to say anything antagonistic to his useful instructions, but because I think in his desire to simplify the subject, and render its pursuit more economical, he has made a mis-statement which is sure to lead to disappointment.

He says, "The thanks of all photographers are due to Sir David Brewster. He has exploded the old theory of expensive lenses with broad diaphragms. He has proved that a *more correct* portrait may be produced by a lens costing but two shillings, than by a double achromatic, value fifty pounds."

Now, no one in his senses ever supposed for one moment that a portrait lens with a "broad diaphragm," or, rather, no diaphragm at all, could produce a *large* undistorted picture. And, most assuredly, Sir D. Brewster never did prove that a good three-inch portrait lens would not take a correct picture; much less that a lens costing two shillings would produce one *more correct* than a large achromatic costing 50*l*. The supposition is absurd. Would not any one imagine, upon reading this assertion of Mr. Copland, that expensive lenses had been discarded altogether? Would not he be surprised to learn that the contrary is the fact; that the best portraits are still (and ever will be), taken by the largest and most expensive lenses?

As I have had some experience in photography, and am tolerably conversant with practical optics, I will venture to illustrate the matter as simply as I can. An amateur, A., following Mr. Copland's advice, purchases a cheap lens for portraits, price two shillings; for that sum it cannot be made achromatic (it is a *meniscus*, or a crossed lens); consequently it must be made of long focus, otherwise the distortion of the linage will be very great; and even then, to render the picture perfectly free from distortion, a stop must be applied, which will cut off two-thirds of the light passing through it; and he will find that the required time of exposure, even in a good light out of doors, will average a minute and a half, or more.

A. then pays a visit to his photographic friend B., to compare notes on their favourite pursuit. His friend B. has a large double achromatic, which cost him 12*l*. 12*s*., and is three inches aperture, a little larger than his own. He sees at once that B.'s portraits are better defined than his own, which, for some reason or other, he *never can* get perfectly sharp; and, moreover, that they are more forcible, and are also larger. He is not long in accounting for the greater distinctness he so envies, for B. does not require more than from one to four seconds exposure for a portrait; whereas he cannot do with less that ninety, with the same collodion. It strikes him that his sitter cannot remain still for that length of time. Moreover, he owns reluctantly that he must give a still longer exposure, if he wishes for portraits as large as those of his friend B.

After his visit, A. becomes discontented with his productions, and is told that he can do nothing without an achromatic lens; accordingly he does now what he ought to have done at first—purchases a small achromatic of about one inch and a half aperture, and two inches and a half, or three inches and a half, in focus, with a suitable stop, like that of a landscape lens. He now finds that he can take portraits quite as quickly, and quite as well-defined as those of his friend B., taken with his large and expensive apparatus. The only difference now between their production is, that B.'s portraits are larger; and the result of his experience is as follows:—

A small, cheap, achromatic lens costing about 25*s*., will give perfectly correct portraits on plates four inches square; but, owing to the deep curvature of the lens, the sitter must not be within a certain distance, and the portrait must be small; while an expensive three-inch portrait lens will give *perfectly correct* portraits on plates five inches square; but, owing to the shallow curve of the lens and long focus, the head of the portrait may be made to cover, without the least distortion, a superficies of four times the extent of the other; and when the same portrait is taken, *of the same size*, by the two lenses, the larger of the two will require much shorter exposure, and will take a good portrait in an amount of light in which the smaller would give but a very indifferent picture.

My earnest advice, then, to a beginner, is this—*the most important part of your apparatus is your lens;* if that be bad, every picture you take must be bad. Have nothing to do with cheap lenses, not achromatic; it will be found in the end to be the very worst economy. Go to the expense of twenty to thirty shillings for a small, short-focussed achromatic, such as are now made for stereoscopic pictures, which will give pictures four inches or four inches and a half square; and you will have one that will be, for small portraits and landscapes, everything you could wish. For larger pictures a more expensive apparatus is required; indeed, the price advances in direct ratio with the size of the picture.

In speaking of the performance of large portrait lenses, I must be understood as speaking only of such lenses as are absolutely perfect as works of art; the production, for instance, of such men as Messrs. Powell and Lealand, or Mr. Ross. A bad double achromatic portrait lens is not worth 2*s*. And, so far, I agree with Mr. Copland.—H. C. K.

["H. C. K." is thanked for his communication. If all practical men did their best to expose what they believe to be error, much real knowledge would be the result.

But we believe "H. C. K." to be partially in error. Sir David Brewster, may, no doubt, be considered "*up to*" the mark as to the optical principles of photographic art.

Sir D. Brewster states, that "the photographic camera is utterly unfit, *from the size of its lenses alone*, to give accurate representations of living beings."

He takes the case of a lens three inches in diameter (similar to "H. C. K.'s" B. lens) with it: he says, "*the photographic picture is a combination of* 130 *pictures of the sitter, taken from* 130 *different points of sight!*"

Sir D. Brewster further says:—"In order to obtain perfect portraits of persons, landscapes, buildings, or machinery, we must use lenses of small aperture, not exceeding a quarter of an inch." . . . . . "With a rock-crystal lens, five-eights of an inch in diameter, we have obtained portraits in *sixty* seconds, which, though not so sharp as those taken by the usual cameras, have been pronounced by competent judges to be better likenesses, and finer photographs."

Another practical writer says, that large lenses "not only are *unnecessary*, but even *injurious*, we can assert from repeated experiments."

"That large and expensive lenses are not necessary, is illustrated by the fact, that a beautiful portrait of an illustrious savant was recently taken by an artist in Edinburgh, with a spectacle-eye of rock-crystal, stopped down to half-an-inch, and for which the sum of one *shilling* would be charged. This portrait we had the pleasure of examining, and of comparing with another likeness of the same individual taken with large lenses by a first-rate artist, to which it was manifestly superior, both in point of expression and resemblance."

The only advantage a large achromatic lens has over a common meniscus, is rapidity of action; correctness as to *separate details, not correctness as a whole*. In the supposed cases, though A.'s picture is not so *sharp* as B.'s, it is a *more pleasing* and *correct* likeness. The system adopted by some photographers of placing a sheet of even-textured paper *between* a sharp negative and the prepared paper, was introduced for the very purpose of getting rid of this extreme sharpness admired by "H. C. K."

B.'s portraits no doubt, evince more *optical* perfection, than those of A. They bear the same relation as does an architect's elevational drawing of an edifice, to an oil painting of the same by an artist. The former, though more perfect in *its details*, is not so truthful a representation of the building as the latter in the eyes of "the many."

B.'s pictures are also *larger* than A's. But the age of *monster* portraits is gone by. If *such* a likeness be desired, it is produced from the small lens negative by means of the photographic pantograph. A. only requires a more sensitive process to be in all respects superior to B.'s: (as it is, with

the same process, his likenesses will prove more life-like and pleasing.)

If the photographic student be able to afford a SINGLE achromatic lens, *and stop it down to a quarter of an inch aperture*, it will, no doubt, be preferable to a meniscus, as respects rapidity of action; (indeed, in our instructions as to apparatus, we *had* recommended *such* a lens*); but unless he desire to produce microscopic details, and unnatural effects, let him avoid B.'s 12*l.* 12*s.* double achromatic.

The picture produced by the 12*l.* 12*s.* camera will be "such a picture as we would have seen with a monstrous eye," equal to the diameter of the lens. "Can anyone wonder, when such lenses are employed, that portraits are not recognised, and that landscapes are distorted and unnatural?"

The age of expensive lenses is gone: and though we knew we should be exposed to a vast amount of trade opposition, we felt it our duty to state as much in our first number of "Photography for the MANY." We ask "H. C. K." to *experiment* for himself, and submit the results to an *unprejudiced* judge, as respects comparative *accuracy* of *portraiture*.—E. A. COPLAND.]

SMALL DRONES.

Mr. Wighton has settled the question on small drones in your number of Oct. 13th, by confidently asserting that they are bred in drone cells, near the edges of the combs, and are of necessity smaller; and thinks Huber was led into a mistake by something of the same nature. Now, if I understood Huber on small drones, he means hives having young queens, whose eggs produce nothing but small drones. The cause he attributes to the queen going past the proper time for fecundation; and my own experience (as well as that of others I have talked with on the subject,) proves them to be queens of second or third swarms, or hives that have changed their queens, as was the case with the one I am about to describe.

In June 1850, I hived a first swarm in a storifying hive; then united a second in fourteen days after. All went on well; and at the end of the honey season, I took a fine box of honey, net contents twenty pounds, and left the stock forty-five pounds, in three boxes full of comb. A few days after, I found a dead queen on the floor board; but knowing it to be a common occurrence for hives to change their queens, I thought all would be right, as there were drones in it at the same time. In the following spring, when cleaning the floor-board, I examined the stock; and must say, it looked well for bees and honey. In March, I shifted it about five miles, for the sake of the Gooseberry blossoms, and never saw it till the beginning of May, when I found it had not improved. As the following day was fine, I was determined to see what was the cause; and on lifting up the upper box, I was astonished to find it rife with young drones, perfectly shaped, but as small as workers. After puffing them up and down the combs, to see if they had any young worker bees, I could not see one, but thought all might be right, as there was plenty of small bee brood sealed up. I then run them off, and examined the brood minutely, picking them out one by one; and found them to be the same as those arrived at maturity. I may say, all the brood was within two or three days of coming out. As for the queen, she was perfect as regards appearance.—APIARIAN.

THE STEWARTON HIVE.

I WAS not a little surprised at the remarks of "T.," under the above heading, which appeared in your publication of the 24th of November. The substance of the article appears to me to be—

"The theory of 'R. E.' is, the larger the hive the greater the produce."

"He cannot induce bees to store more honey in one hive than another."

"He can have no power over the quality of the honey."

"The number of workmen alone affects quantity."

"I never saw a Stewarton hive."

"He must be clever who can make a bee put a single ounce extra into a hive unless it has a mind."

"Beware of quackery!"

Now, from beginning to end, this gives evidence of such a total lack of acquaintance with bee matters, that it should just be treated by the rule of contrary. There is also an absence of faith and good feeling; and, what is worst of all, an inference as broadly expressed as possible, that I am a quack.

I have nowhere stated that the larger the hive the more honey. In the Stewarton system the object has been to employ a hive that will contain such a population as will give full scope to the breeding powers of the queen. Anything beyond this we consider injurious.

Bees store more honey in our boxes than in anything else which has been tried alongside of them.

If there be any difference between pure white virgin honeycomb and that which is darkened and tainted, then the quality is, in a great measure, under our control.

We must first have number to produce quantity; but judicious management, and a proper habitation, will go a long way in keeping these workers fully employed; and the advantageous storing of their produce is very much in the hands of the bee-keeper.

We take little credit for our ability to induce bees to gather a good many ounces of honey, when otherwise they would waste much time in hanging idly about their dwelling. We simply give extra room above, or below, or both, as circumstances require, and thus gain days of labour in the best of the seasons.

Our system is not one of theory, but is founded on years of practical experience; and this is a portion of our creed:—

That we can induce bees to work.

That by management we can so far *preserve* the quality of the honey as to command double the usual market price.

That the strong hive of one year is likely to do well the next, &c.

All this may be accomplished with any other hive of similar construction, and managed in a similar manner.

In conclusion, I must say that I am quite at a loss to conceive what possible excuse "T." could plead for his gratuitous condemnation of a system and hive, of which, according to his own assertion, he knows nothing at all.—ROBT. EAGLESHAM.

POMOLOGICAL SOCIETY.—Since our report of the last Meeting, the following additional prizes have been offered:—

For the best dish of six of the Salway Peach, *offered by Mr. C. Turner, Slough* ONE POUND.

For the best dish of ten of Cox's Orange Pippin, *offered by Mr. C. Turner, Slough* ..... TEN SHILLINGS.

NEW BOOKS.

THE ROSE AMATEUR'S GUIDE.*—We welcome this new and sixth edition of Mr. Rivers' excellent treatise on the Rose, which is the most readable book on the subject that has yet come under our notice. Though thoroughly practical, it has none of that dullness with which many practical works abound. The author is evidently in love with his subject; and the reader cannot fail to be beguiled along, culling as he goes the fruits of experience here stored up by one who knows well how to present them in the most tempting form. A better book on Rose culture cannot be wanted.

QUERIES AND ANSWERS.

HEATING BY HOT WATER.

"Having read much in your valuable paper relative to the best mode of heating houses by hot water, I take the liberty to send you particulars of my mode, which answers admirably.

"The chief recommendation is the entire disuse of valves,

* These instructions have been in our hands some weeks. "H. C. K.," should have waited for them.—ED. C. G.

* *The Rose Amateur's Guide*, containing ample descriptions of all the fine leading varieties of Roses, regularly classed in their respective families; their history and mode of culture. By Thomas Rivers. London, Longmans.

there not being one in the whole plan, and the substitution of wooden plugs.

"The water enters from the boiler into the box or cistern; and from thence it may be directed into greenhouse, pit, or vinery at pleasure by means of the said plugs. The pipes below ground are the return-pipes to boiler; and the cisterns have lids for steaming the house.

"Should you wish to turn the water off the greenhouse, for instance, you then fix a plug in cistern No. 1, and another one in the pipe leading from the box, and marked No. 1.

In the vinery, you would do the same with cistern No. 2, and pipe No. 2; and the pit, likewise, with cistern No. 3, and pipe No. 3.

"The object, of course, in fixing two plugs is to stop the back water in the return-pipes."—Arthur Connell, *Eskdale House, Langholin.*

[We are very much obliged for your interesting letter, and for the well-drawn plan with which it is accompanied, and which we would have been glad to engrave, but for the quantity of matter waiting for insertion in our columns; and also because we fail to discover anything in the plan decisively new; though we feel convinced it is everything in the way of effect and simplicity you represent it to be. More than twenty years ago we had the management of a series of houses and pits—in which stove plants, greenhouse plants, Cucumbers, Melons, Strawberries, Dwarf Kidney Beans, Pines, and bedding plants were grown—all heated from a main cistern such as yours, and supplied with wooden plugs instead of valves; and nothing could answer better. We just found that a little management of the plugs was necessary, as the heating pipes in the different divisions, being on different levels, when all the holes were open alike, the flow was stronger in those nearly on a level with the cistern, than in those considerably below it. A little notching and regulating of the plugs made that all right. In such cisterns we like plugs just as well as the finest-made brass valves; but, of course, they are not so neat and artistic. To give our readers an idea of your simple plan—and not more simple than effective—we should like to state that the vinery and greenhouse are joined together, the former being double the size or so of the latter, and having a pit in its centre, which can be heated separately if desired. The doorway into the vinery is not from the outside, but from nearly the middle of the division, between it and the greenhouse. The front entrance into the greenhouse is at the point where the greenhouse and vinery meet; and opposite to it is another doorway, leading into the sheds behind.

The mode of heating is adapted to these doorways and paths. The boiler is placed in the shed near the greenhouse end of the vinery. A flow-pipe leads into the cistern inside the vinery. From that cistern, No. 1 pipe passes through the division into the greenhouse; goes below the ground at the pathway, if necessary; goes round the house as a single pipe until it comes to the front, where it is doubled; placed horizontal to each other, as Mr. Hume does; and ending close to the doorway in an open cistern. No. 1, from which the return-pipe proceeds, and which can be easily plugged likewise when desirable.

No. 2 pipe, furnished with its plug, goes along the back and round the end of the vinery, being doubled, likewise, along the front, terminating in a cistern close to the end wall; and with that wall and the doorway separating it from the cistern, or reservoir, in the greenhouse. This, of course, has pipe and plug No. 2 for return. No. 3 pipe goes round the pit, inside the vinery, terminating in a cistern (No. 3), just outside the wall of the pit, and which can be plugged also when deemed advisable. The return-pipe, with which these 1, 2, 3 cisterns, or reservoirs, at the end of the respective flow-pipes are connected, lies along beneath the pathway, between the two doorways in the greenhouse; the short pieces from the cistern to it are also under ground, so as not to interfere at all with walking there, or going round the vinery. It is not said whether that return-pipe is covered, or merely grated over. We should prefer the latter. Our readers will perceive, then, an open cistern at the end of the flow-pipes in each house, and the means of plugging up the return-pipe there, to stop the back water in the return-pipes, are distinctive features; but under such an arrangement, though this plugging of the return-pipes will be useful, yet, practically, we do not place great importance upon it; as, provided there is no flow, there will be no very great trouble with returns. Still, when, as in the present case, it is so easily managed, it ought to be done. This is just one other proof how a very simple system may be varied to suit circumstances.]

LATE GRAPES FOR A VINERY.

"I am about planting a new vinery for a late crop to hang on till March. My aim is, to have Grapes all the year round; and I shall feel obliged to you for a little of your advice respecting the sorts which will hang longest. I have got seven lights, so that I shall plant seven Vines; and I should like to have more than one colour. I have a house I have just shut up, to begin forcing with five lights; and I am deficient of one Vine, which I want to make good with one that will come in early. I have one *Black Hamburgh*, one *Dutch Sweetwater*, one *Green Frontignan*, and one *Muscat of Alexandria* at the hottest end. I am thinking of planting either a *Golden Hamburgh* or a *Black Champion.*

"I have a house with five lights, and all *Black Hamburghs*, with some very good Grapes on now; and I am in hopes of having some of them hang till Christmas. So that I think, with my three houses I shall be able to have a succession all the year. I have made my borders for my new houses very shallow."—T. W. H.

[You cannot do better than plant *Golden Hamburgh;* though, if you want earliness, we should almost prefer the *Royal Muscadine.*

You ask us advice; but we hardly know on what point to give it. Your commencing to force just now will hardly give you Grapes all the year round, even should you have a late house, the Grapes in which will hang till March. Your success with both the early house and the late house will consist much in protecting your borders, if outside, so as to keep them dry, and not too cold. For a late house, the atmosphere cannot be kept too dry after the fruit is swelled and ripe. The latter will keep better, if ripe, or nearly so, by the middle of October.

For this late house we would recommend three *Muscat of Alexandria*, and three of West's *St. Peter*, and one *Barbarossa.* We would have had more of the latter, but we do not find it to be a fertile bearer. If *Muscats* are desirable, you might have four of them instead. Nothing hangs better; and, for a late house, they would come into bloom when the summer heat would be nearly at its height.]

ORNAMENTAL BRITISH PLANTS.

"I feel convinced many of our most beautiful British plants are being almost overlooked. With a little of the hybridist's skill, what a world of beauty would be unfolded in the *Foxglove!* What a substance to begin with! Smooth as pearl, perfect hardiness of constitution! What a foliage, and what noble spikes! It will grow almost anywhere. Rich and poor may have plants in thousands. They are true Britons, and deserve a better position than is generally bestowed upon them—some out-of-the-way corner.

"There has been 'war among the Roses;' and it is high time there was a revolution amongst our native flowers. Here we are running ourselves to needless expense in fostering an army of foreigners, while we have hosts of our own languishing for employment in the woods and wilds. They want beating up. English flowers, like English men, will present a goodly array; and I have no doubt, with a little drilling, they will form a better division, and return more heroes, than the floral world is at this time aware of.

"Would not the variegated *Draba* make the very best of all dwarf edgings for small beds or borders? You would have beautiful white flowers in spring; then, cut with the shears, after blooming, to the requisite width—it looks so beautiful throughout the winter.

"Would the variegated *Lychnis* be of any service? I found it growing in one of our woods. The variegation has been most beautiful all through the summer, and seems constant.

"I have, also, a prettily-variegated *Plantago lanceolata,*

which has been quite a gem; but I am afraid it will propagate but slowly.

"I have ten varieties of *Foxglove;* some of them beautifully spotted in the throat, not mottled, but good large spots. Will you try a few plants?"—W. E.

[The variegated *Draba* is an extremely pretty spring flower; and, as you say, a most beautiful edging. A good deal, however, depends on the soil. We fear we never saw it so fine as yours is; and the *Golden Stonecrop* is yet as green as *acre* with us.

We cannot judge, from the leaves you sent, the merits of the variegated *Lychnis;* but if you will send it for the Experimental Garden, its value will soon be tested; as also that of the spotted *Foxgloves.* They had some very pretty kinds of them in the inside borders at the Crystal Palace. Take special care of the *Plantago;* for it is very apt to slip through one's fingers.]

TO CORRESPONDENTS.

USES OF TWO GREENHOUSES (*M. L.*).—A full answer to such inquiries was given some time ago; though, at the time, we were obliged to think of the many varied purposes to which such means might be applied. To give a repeated lengthened dissertation frequently, would not be fair to our general readers. If there be any specific information you require, we shall be glad to give it according to our ability. Within these few weeks you would also find full information as to keeping plants in a greenhouse, growing Vines in a greenhouse, and keeping plants in an unheated house, by means of a portable stove; and we can add nothing more. There can be no question that you may grow Asparagus, Seakale, Rhubarb, Radishes, early Potatoes, Lettuces, &c., in your frames, and then afterwards bring them in for Melons and Cucumbers. You may have a Vine stem every four feet on the roof of your greenhouse, and the Vines will not interfere with your cuttings or your flowering plants; but you must not expect your flowers to be so good after May and June, owing to the shade. Any of the portable stoves, such as those advertised in this work, *with a flue*, will do to preserve all your hardier cuttings and plants, but the success will be owing to the care.

WOODLICE (*Reldas*).—Woodlice are very uncommon in a new wall, unless the place was very much infested before the new wall being placed in the position of a very old one. However, traps and boiling water are your best remedies. In this mild weather, put pieces of boiled and raw Carrots and Potatoes down by the side of the wall, cover them with fine hay, and go in the morning with a pail of boiling water and a small-rosed watering-pot, lift the hay quickly, and pour the water on the back of every one you see. Persevere as long as you can meet with any; and do the same thing repeatedly in summer, before your fruit approaches maturity. If the water be confined to the very side of the Mushroom-bed, it will do little harm. We have adopted the following plan often:—When a bed is made some time, a crack from an eighth of an inch to a little wider, will be formed on each side of the bed, if it have a boundary on each side. Cover the bed slightly with hay, have a boy to move off the hay quickly; and, as he does so, the woodlice will instinctively run into the cracks; and there you follow them with a small-spouted pot and the boiling water. If done well, the water being poured close to, or even on the wall, you need not wet half an inch of the bed, and yet destroy the delinquents in myriads. We have also sunk bellglasses to the level of the bed, and put baits of Carrots, &c., inside of them, and have taken a pint out of one in a morning. When once in, they cannot hold on by the smooth glass, so as to get out again.

GREEN SCUM ON A POND (*A Constant Subscriber*).—This is a very difficult matter in stagnant water. If there be a constant inlet, that might be made to turn a wheel, that would give motion to the water. A friend of ours had motion given once by a windmill, but he began to like the windmill as little as the scum; and, of course, in quiet weather there was no wind.

VINE PRUNING (*H. Coventry*).—The small piece of Vine shoot sent, consisted of the base *bud*, and the heel by which it was joined to the main stem. Above, were two more joints, with their respective buds. The mode of cutting before the bud was all right enough. The wood seemed to be pretty well ripened, and, therefore, there may be a chance of fruit; but if the wood sent be a sample of what generally exists, not quite three-tenths of an inch in diameter, and the largest buds on it no bigger than pins' heads, then we are sorry to say, that so far as the individual buds are concerned, it matters but little where you cut to, as the one seems no more likely to be fruitful than the other. Perhaps it would be safer to leave two, and give yourself more chance until the Vine broke; and then you could take away or rub off those not wanted. Our only hope, however, of your having a crop, is the apparently ripe condition of the wood; and, therefore, as we have hinted, you might cut to the lowest bud, if you felt so disposed. We think you erred in leaving so much wood the first year, and taking so many as four bunches. We hope your wood is better than the specimen sent. If not, we would refer you to some articles of late, on pruning and summer management.

PORTRAIT (*T. H. H.*).—One of Mr. Beaton, was published in a former volume. We can give you no information about the other.

BRUSSELS' SPROUTS (*W. Melville*).—We never before saw any so fine. The stalks eighteen inches high, were literally studded with Sprouts throughout their length, and many of the Sprouts were as large as moderately-sized Apples.

POTATO PLANTING (*W. A.*). — *Ash-leaved Kidneys* (not *Walnut-leaved*), called in Cornwall *Lemon Kidneys*, are the most generally known as an early-ripening variety; but every neighbourhood has some variety peculiarly early. Inquire for such a kind, and plant that.

WALNUT (*F. A. S.*).—This name has no reference to the "wall-like hardness of the shell." It is a native of the mountain districts of Persia, and of the Himalaya; and in various countries of Europe its fruit has been called by a name allusive to its foreign origin. The Greeks called them *Persicon*, or Persian Nuts; the Romans *Glans Jovis*, or Mast of Jupiter; in Holland and Germany they are known as *Walsch noten* or Foreign Nuts, and from hence is derived our name for them. Gerarde in his "Herbal" says they are called "in English, Walnut; and of some Walsh-nut."

MOULDINESS IN GREENHOUSE (*Lachenalia*).—The fungus, or "hairy mould," will be banished by keeping the house drier, better ventilated, and sprinkled with flower of sulphur.

COTONEASTER INSECT (*H. T.*).—The shrub is dying from the attacks of a species of Scale, apparently *Aspidiotus ostreæformis*, or Oyster Scale. Brushing over the bark with spirit of turpentine would destroy the vermin.

PASCALL'S CUTTING POTS (*J. J. B.*).—We do not know where they are sold. If worth attention they would be advertised.

NAMES OF FRUIT (*J. S., Surrey*).—*Apples.*—1. Golden Winter Pearmain. 9. Dumelow's Seedling. 10. Cobham. 11. Bedfordshire Foundling. 12. Nelson Codling. 13. Early Nonpariel. 14. Court of Wick. 15. Court of Wick. 16. Hollandbury. 17. Scarlet Nonpareil. 20. Court Pendu Plat. 21. Ribston Pippin. 22. Franklin's Golden Pippin. *Pears.*—2. Ne Plus Meuris. 3. Forelle. 4. Napoleon. 6. Glout Morceau. 7. Easter Beurré. 8. Easter Beurré. 10. Passe Colmar. (*R. F. H.*).—1. Winter Nelis. 5. Duchesse d'Angouleme. 6. Brown Beurré. Beurré Bosc is not a shy bearer. We do not recognise the others.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DECEMBER 16th and 17th. NOTTINGHAMSHIRE. Entries close November 18th. *Hon. Sec.*, Mr. R. Hawksley, jun., Southwell.

DECEMBER 30th and 31st. BURNLEY and EAST LANCASHIRE. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

JANUARY 1st, 1858. PAISLEY. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

JANUARY 4th, 1858. KIRKCALDY. Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

JANUARY 9th, 11th, 12th and 13th, 1858. CRYSTAL PALACE. *Sec.*, Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th, 1858. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs. Entries close Dec. 19th.

FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

CREWE POULTRY SHOW.

WHAT is the duty of the reporter of a Poultry Show? Is it to confine himself to the real business of the thing, and to say there were so many pens in this class, and so many in that; and this lady was successful, and that gentleman took the honours? or, if he feel lively, shall he attempt to make his readers the same? We know nothing so melancholy as the laugh of some men. It is as indescribable as that of a child, when the mother looks sapient and says, "I hardly know how this will end." But, lest our readers may be disposed to think the same of our report, we will begin by saying, when we get to Crewe we always think of Aladdin and his wonderful lamp. When that fortunate young man, whom we once saw on the stage decently habited in a snuff-brown surtout and black continuations, because his trunk had fallen off the coach—there were no railways then-a-days—when he wanted a town or a palace built, the genii of the lamp produced them directly. Now, the only difference between the questionable creatures before mentioned, and the London and North-Western Railway Company is this, that the latter have been longer about it; but they have produced a town of from 7000 to 8000 inhabitants. These good inhabitants have got up a Poultry Show; and the second was held on Tuesday and Wednesday, the 8th and 9th. Last year the elements were unpropitious, a deep snow having fallen: this year they had beautiful weather; and the Cheese Hall was not only full of good birds, but profitable visitors.

The building is large, lofty, and well-lighted. That last sentence is so business-like, and contains such a mass of information, that we shall again mount our Pegasus, and inform

those who are patient enough to read this report, that, as the building does not supply a fitting room for the office of the clerk, for the registry of sales, and all the numerous requirements of a poultry secretary, that a van, once the residence of the queen of the gypsies, was wheeled into the place, and the abode of royalty became an office. We quite agreed with an old gentleman, one of the old school of sportsmen, who said: —"It was no bad residence, and would be a capital thing for grouse shooters to station in desert spots of the highlands." It is just possible some of our readers have never closely inspected a "gypsey interior." Ten feet long; nearly six wide; six feet high in the centre; verandah over the door; three sash windows, fire-place, &c.; a side-board at the end, with locker underneath; and at night the side-board becomes a bed; and then two *such nice* cupboards, one in each corner, at the side of the door. Her Majesty required larger apartments; and hence the degradation of this mansion, or, we should rather say, its promotion—not that we love the queen of the gypsies less, but that we love poultry more.

It was an excellent Show; and we will now, in sober seriousness, go to our duties. We should have spoken more soberly of it, but we enjoyed it. It was a pleasant Show, and hence our lightness. There is a peculiarity, inasmuch as there are two divisions; one being confined to the district, and the other open to all England. We would press on the Committee the advantage of doing away with the second division, and increasing the number of prizes in the first. The classes will be stronger: and, judging from the birds shown, the inhabitants of the district are able to hold their own against all comers, especially in Dorkings and Spanish.

There was great competition for the first prize—a Silver Cup given by the Committee for the best pen of *Spanish* fowls. There was an excellent entry; and the successful name, Mr. Brundritt, followed by that of Mr. Busst, will show that the successful at Birmingham were among the exhibiters. The next prize, also a Silver Cup, was given by the licensed victuallers of Crewe for the best pen of *Game*. It remained in the neighbourhood, being gained by Mr. Whittington, of Nantwich, hard run by Mr. Moss, of Liverpool. We think the licensed victuallers of Crewe here set an example, which may well be followed by their brethren in many places, especially at Birmingham. The Committee gave the next Cup for the best *Game Cock*. This was easily won by Mr. Moss, of Liverpool, with a splendid bird.

Having done with the Cups, it is only common justice to compliment Messrs. Mapplebeck and Lowe, of Birmingham, on the manner in which they executed the order for them.

The *Spanish* classes were excellent, although there were four of them; and had all been shown in one, it would have been worthy of any Exhibition in the kingdom. Both the first prizes went to Lancashire, to Messrs. Fell and Davies; but their immediate followers in the prize-lists ran them hard enough to make their success anything but easy.

Both the first prizes for *Dorkings* also went to Lancashire and to Prescot. This, added to the piece of plate going there to Captain Hornby from Birmingham, will identify the place with prize Dorkings, if it be continued.

The *Cochin-Chinas* were not a good class; the best among them were Mr. Busst's Grouse birds. The *Brahma Pootras* were very good; and the birds named in the prize-sheet, belonging to Messrs. Teebay and Manning, well deserved the distinction. The *Hamburghs* were all good, and brought out the "great guns." Mr. Archer headed the Silver-pencilled, and Mr. Worrall the Golden-spangled. Messrs. Titterton and Robinson had similar good fortune. There were good birds among the *Polands;* but they were the exceptions. The best birds were Mr. Dixon's Silver, and Mr. Fox's Black, with white crests. The *Game*, in every class, were much better than at the late Show, especially the Black-breasted and other Reds. Messrs. Dawson and Ashley showed good birds; and the former gentleman also sent an unsually good pen of Duckwings. We were sorry to see none of the old Cheshire Piles; but we suppose they are quite lost. There were many good specimens in the various classes, especially Mr. Churchill's *Black Hamburghs*, Mr. Watkin's *Sultans*, Mr. Dixon's *Malay*, and Mr. Thomas's *Andalusians*.

These brought us to the *Bantams;* and improvement is plainly written on them at all the recent Shows. Mr. Harvey Dutton Bayley took first for Gold and Silver; Messrs. Hincks and Titterton also showed excellent Gold birds: these were better than the Silvers. The Black and White, though not numerous, were meritorious; and the Game were very good. Messrs. Churchill and Bayley deservedly took first and second.

Our next duty is with some of the best classes in the Exhibition, viz., the *Single Cocks*. The *Spanish* were excellent, and the prize bird, belonging to Mr. T. Davies, may be shown fearlessly. He was immediately sold. This class had not weakened the general entries; but in the *Dorkings*, it was plain, the best birds had been reserved for single entry; and this explained why, in many of the pens, the pullets were better than the cocks. Mr. Horrocks, of Preston, was the winner. Every colour competed for the *Cochin-China;* and a white bird, belonging to Mr. Copple, of Prescot, won a hard and well-contested victory. Mr. Teebay did the same for *Brahma Pootra*. The *Hamburgh* Cocks were also excellent; Messrs. Carter and Gaulter taking the prize. Both *Aylesbury* and *Rouen Ducks* were heavier than at Birmingham; but there had not, save in the prize birds, been sufficient care used in selecting those with proper bills. Mr. E. Lister's Aylesburies were excellent; and the same may be said of Mr. Evans's Rouens. In the varieties, Mr. Churchill's *Buenos Ayrean*, and Mr. Dixon's *Brown Call*, were very good.

The second division will call for little notice beyond the fact, that the *Spanish* and *Dorkings* were excellent. The names of the successful will be found in the prize-list.

There was a large entry of *Pigeons;* and many beautiful specimens were to be found. The best classes were, Carriers, Tumblers, Jacobins, Fantails, Owls, Nuns, Turbits, and Dragoons.

All who love this pursuit, are indebted to the Committee, who work heartily and pull well together. We wish them every success. They adopt one rule worthy of imitation. Before the Show is opened, they parcel out the time into hours of duty, and by these means, each Member knows exactly the time he will have to devote to the superintendence of the Show.

The Judges were — Peagam, Esq., and Mr. Baily.

FIRST DIVISION.

Committee's Silver Cup Prize, for the best Pen of *Black Spanish*.—Cup, W. W. Brundrit, Runcorn. Highly Commended, J. Busst, jun., Walsall.

Licensed Victualler's Silver Cup Prize, for the best Pen of *Game*, of any variety, age, or colour.—Cup, T. Whittingham, Batherton, near Nantwich. Commended, G. W. Moss, Esq., Liverpool.

Committee's Silver Cup Prize, for the best *Game Cock*.—Cup, G. W. Moss, Esq., Liverpool. Highly Commended, H. Horton, Worcester.

FIRST DIVISION.

Spanish.—First, G. Fell, Warrington. Second, D. Harding, Middlewich. Highly Commended, W. Sargeant, Trent Vale, Staffordshire. *Chickens of* 1857.—First, T. Davies, Wavertree Nursery, Liverpool. Second, R. Teebay, Fulwood, Preston. Highly Commended, W. Dawson, Morfield, Yorkshire; G. Fell, Warrington; J. Busst, jun., Walsall. Commended, W. W. Brundritt, Runcorn; J. Whittington, Wootton Wawen, Henley-in-Arden. (An excellent class.)

Dorkings (White).—First, J. Robinson, Garstang. Second, G. Fell, Warrington.

Dorkings (any colour).—First, W. Evans, Prescot. Second, J. Robinson, Garstang. Commended, J. D. Hewson, M.D., Stafford. *Chickens of* 1857.—First, W. Evans, Prescot. Second, H. Churchill, Gloucester. Highly Commended, W. Copple, Prescot; J. E. Wilson, Claverley, near Bridgenorth. Commended, W. Evans, Prescot; T. G. Arculus, Birmingham. (A good class.)

Cochin-China (Cinnamon or Buff).—First, T. Hincks, Penkridge. Second, W. Copple, Prescot. Highly Commended, H. Tomlinson, Balsall Heath, Birmingham.

Cochin-China (any other colour).—First, J. Busst, jun., Walsall. Second, F. W. Earle, Edenshurst, Prescot.

Brahma Pootra (any colour).—First and Second, R. Teebay, Fulwood, Preston. Highly Commended, F. Manning, East Burgholt, Suffolk.

Pheasant or Hamburgh (Golden-pencilled).—First, R. C. Titterton, Birmingham. Second, W. Pierce, Hartford. Highly Commended, Messrs. Carter and Gaulter, Poulton-le-Fylde; S. H. Hyde, Ashton-under-Lyne; — Dutton, Bunbury.

Pheasant or Hamburgh (Silver-pencilled). — First, E. Archer, Malvern, Second, Miss L. Whitcome, Gloucester.

Pheasant or Hamburgh (Golden-spangled).—First, W. C. Worrall, Liverpool. Second, W. R. Lane, Birmingham. Highly Commended, Mrs. Parkinson, Newark. Commended, — Appleton, Winwick, Warrington.

Pheasant or Hamburgh (Silver-spangled). — First, J. Robinson, Garstang. Second, M. Boswell, Corn Market, Oxford. Commended, J. Dixon, Bradford, Yorkshire; R. Teebay, Fulwood, Preston; K. Bartrum, Bath.

POLAND (Golden). — First, H. Churchill, Gloucester. Second, J. Dixon, Bradford, Yorkshire. *Chickens of* 1857.—Prizes withheld.

POLAND (Silver).—First, J. Heath, Nantwich. Second, J. Dixon, Bradford, Yorkshire. *Chickens of* 1857.—First, J. Dixon, Bradford, Yorkshire. Second, H. F. Wells, Ilford, Essex.

POLAND (any other variety).—First, G. S. Fox, Wellington, Somerset. Second, W. Dawson, Selly Oak, Birmingham.

GAME (Black-breasted and other Red).—First, W. Dawson, Selly Oak, Birmingham. (Second withheld.) *Chickens of* 1857.—First, R. Ashley, Wistaston. Second, J. Downing, Nantwich. Highly Commended, C. Brocklehurst, Macclesfield. Commended, E. W. Haslewood, Bridgenorth.

GAME (any other variety).—First, W. Dawson, Selly Oak, Birmingham. Second, H. Parry Wellington, Salop. *Chickens of* 1857.—First, H. Parry, Wellington, Salop. Second, Rev. T. E. Abraham, Bickerstaffe.

ANY OTHER DISTINCT BREED.—First, H. Churchill, Gloucester (Black Hamburgh). Second, A. Watkin, Walkley, Sheffield (Sultan). Commended, J. Dixon, Bradford, Yorkshire (Malay); J. Thomas, Macclesfield (Andalusian).

BANTAMS (Gold-laced).—First, T. H. D. Bayley, Biggleswade. Second, T. Hincks, Penkridge. Highly Commended, C. R. Titterton, Birmingham.

BANTAMS (Silver-laced). — First, T. H. D. Bayley, Biggleswade. Second, J. Monsey, Norwich.

BANTAMS (Black). — First, M. Ridgway, Dewsbury. Second, J. Monsey, Norwich.

BANTAMS (White). —First, J. Morris, Crewe. Second, S. Massey, Alsager.

BANTAMS (Game).—First, H. Churchill, Gloucester. Second, T. H. D. Bayley, Esq., Biggleswade.

SINGLE COCKS.

SPANISH.—Prize, T. Davies, Wavertree Nursery, Liverpool. Highly Commended, W. Wooley, Bunbury; J. Horrocks, jun., Preston.

DORKINGS.—Prize, J. Horrocks, jun., Preston. Highly Commended, W. Evans, Prescot; G. Walker, Crewe. Commended, J. Carter, Leftwich, near Northwich.

COCHIN-CHINA.—Prize, W. Copple, Prescot. Highly Commended, H. Churchill, Gloucester. Commended, P. Cartwright, Oswestry; — Harrop, Audersham, near Manchester.

BRAHMA POOTRA.—Prize, R. Teebay, Fulwood, Preston.

PENCILLED HAMBURGHS.—Prize, Messrs. Carter & Gaulter, Poulton-le-Fylde. Highly Commended, T. Shaw, Kirkham, Lancashire.

DUCKS (Aylesbury).—First, E. Lister, Northwich. Second, F. A. Lavender, Biddenham, Bedfordshire.

DUCKS (Rouen).—First, W. Evans, Prescot. Second, G. Lindop, Crewe. Highly Commended, J. Jennens, Wandsworth.

DUCKS (any other variety).—First, H. Churchill, Gloucester. Second, J. Dixon, Bradford, Yorkshire. Highly Commended, W. Evans, Prescot; S. Burn, Whitbey.

SECOND DIVISION.

GOLDEN PHEASANT OR HAMBURGH.—First, J. Whitehurst, Congleton. Second, T. Burgess, jun., Burley Dam. Highly Commended, D Harding, Middlewich. Commended, W. Griffiths, Nantwich.

SILVER PHEASANT OR HAMBURGH. — First, W. Pierce, Hartford. Second, M. Dawson, Sutton, Macclesfield.

SPANISH (Black).—First, J. Hobson, Hall Green, Middlewich. Second, W. Foster, Wrenbury. Highly Commended, — Carter, Leftwich, Northwich. (An excellent class.)

POLANDS. — First, J. Brownswood, Betley. Second, D. Lockett, Wybunbury.

COCHINS (any colour).—Prizes withdrawn.

DORKINGS (Coloured).—First, J. Leach, Crewe. Second, E. Bowers, Nantwich. Commended, C. Fisher, Eaton Stud House, near Chester.

DORKINGS (White).—First, D. Harding, Middlewich. Second, T. Burgess, jun., Burley Dam.

GAME (any age or colour).—First, T. Whittingham, Batherton, near Nantwich. Second, G. Mountford, Betley.

TURKEYS.—First, E. Bowers, Nantwich. Second, J. Horton, Brook House, Coppenhall.

GEESE (Mottled or Grey).—First and Second T. Teasdale, Spurslow, near Wrenbury. Highly Commended, B. Cotton, Crewe.

GEESE (White).—First, E. Bowers, Nantwich.

DUCKS (any breed).—First, G. Lindop, Crewe. Second, R. Bourne, Warmingham.

PIGEONS.—*Carriers.*—First, M. W. Smith, Kent House, Halifax. Second, Mrs. Parkinson, Newark. Highly Commended, H. Prince, Nantwich; M. H. Holdsworth, Halifax; M. Burningham, Edgeware, London. *Tumblers.*—First, J. Smith, Edgeware Road, London. Second, J. Percival, Harbourne, Birmingham. Highly Commended, W. Smith, Kent House, Halifax. Commended, H. Holdsworth, Halifax. *Balds.*—First, W. Edge, Aston, Birmingham. Second, J. Percival, Harbourne, Birmingham. Highly Commended, S. H. Hyde, Ashton-under-Lyne; J. W. Edge, Aston, Birmingham. *Beards.*—First, J. W. Edge, Aston, Birmingham. Second, H. Holdsworth, Halifax. *Jacobins.*—First, S. H. Hyde, Ashton-under-Lyne. Second, — Lavender, Biddenham, Bedford. Highly Commended, C. R. Titterton, Birmingham. Commended, T. Grove, Leamington. *Fantails.*—First, J. W. Edge, Aston, Birmingham. Second, C. R. Titterton, Birmingham. Highly Commended, E. Eaton, Macclesfield. Commended, Rev. R. Kent, Burley Dam. *Trumpeters.*—First, C. R. Titterton, Birmingham. Second, F. Yates, Arclid, near Sandbach. *Pouters.*—First, W. Thursby, Crewe. Second, H. Holdsworth, Halifax. *Mottled Tumblers.*—First, J. Percival, Harbourne, Birmingham. Second, S. H. Hyde, Ashton-under-Lyne. Commended, J. Dudley, Nantwich; C. W. Burningham, Edgeware Road, Birmingham. *Owls.*—First, Miss Killingley, Burton-on-Trent. Second, R. Bourne, Warmingham. Highly Commended, E. Eaton, Macclesfield; C. R. Titterton, Birmingham. (A meritorious class). *Nuns.*—First, W. H. Holdsworth, Halifax. Second, E. Eaton, Macclesfield. Commended, J. Peak, Shavington; J. Firth, Halifax; H. Child, jun., Birmingham. *Turbits.*—First, C. Cotton, Crewe. Second, H. Holdsworth, Halifax. Highly Commended, E. Eaton, Macclesfield; W. Smith, Kent House, Halifax; Master B. Cotton, Crewe. *Archangels.*—First, Mrs. Parkinson, Newark. Second, C. R. Titterton, Birmingham. *Barbs.*—First, G. Peak, Shavington. Second, J. Percival, Harbourne, Birmingham. *Runts.*—First, H. Child, jun., Birmingham. Second, Miss L. Whitcombe, Gloucester. *Dragoons.*—First, H. Child, jun., Birmingham. Second, G. Bebbington, Minshull Vernon, near Crewe. Highly Commended, Miss Killingley, Burton-on-Trent; — Hyde, Ashton-under-Lyne; W. Smith, Kent House. Halifax. (A most excellent class.)

RABBITS.—*Long-eared.*—First, C. R. Titterton, Snow Hill, Birmingham. Second, E. Vann, Carr's Lane, Birmingham. *Best Coloured.*—First, T. Robinson, 6, Davenport Square, Burslem. Second, T. Robinson, jun., Burslem. *For Weight.*—First, E. Vann, Carr's Lane, Birmingham. Second, T. Cook, Cobridge, Burslem. *Foreign and other Varieties.* — First, J. Oakes, Warmingham (Himalaya). Second, C. Cotton, Crewe (Himalaya).

BIRMINGHAM POULTRY SHOW.

THERE is a feeling of regret when we look back at the past Show, because so long a time must elapse before we speak of the next. It is a great treat past.

We have always a few details to give. Thus, the amount of sales was 774*l.* 8*s.* This is a large sum, if it be taken into consideration, that it is no longer made up of 40*l.* or 50*l.* for a pen of birds, but of many purchases at moderate prices.

The receipts this year, were for admission, 1,235*l.* 5*s.*, against 1,259*l.* 13*s.* in 1856; but it must be borne in mind, the subscriptions have increased; and as all subscribers have tickets, they diminish the amount taken at the doors. The children of the different charity schools are admitted gratis; and the same privilege is granted to the families of the policemen, and workmen employed at the Hall. It is a gratifying fact, that 14,511 of the working classes attended the Show.

The number admitted during the four days, was 44,948; against 42,320 in 1856.

On Monday, the 7th, the Treasurer, Mr. Shackel, paid out for cattle sold, 1,252*l.* This is not the whole amount.

PRIZES FOR BANTAMS.

IT afforded me great pleasure to read in No. 476 of this journal, my "LITTLE BROTHER DANDY'S" plea to the Preston Poultry Committee, on the way Bantams are classed, and prizes awarded to them. I think the Bantam exhibiter may be permitted to speak, when he is charged nearly the same rate for carriage as for a pen of large fowls; and the same per pen to enter, although they only take half the keep of Cochin-Chinas, or Brahma Pootras. I am at a loss to understand why Bantams of distinct breeds are classed with "any other variety;" for they might form a good class, if liberal prizes were offered to each variety. The Sheffield Committee arranged a very good Show, and was as well conducted as any Show in Yorkshire; yet the Committee acknowledge, that the Bantam Show, though excellent in quality, was not so numerous as might have been desired. Why? They classed the White Bantam with any other variety. If a class had been open for them, I have no doubt they would have formed a good class. After all, there appeared as many entries as of the Brahma Pootra, for which three prizes were offered. Of these, only three entries were made in Class 21; and in 22, five entries. The Bantam classes numbered thirty-five entries. The Bradford Committee gave room for two classes of Bantams—one Gold and Silver-laced, and one "any other variety." At Calder Vale and Sowerby Bridge Shows there were two classes, each for old and young of any other variety of Bantam. I think it would be far better, if the Committees would name a distinct breed, instead of "any other variety." They would have more entries; and the Judge must have some difficulty to decide

fairly, when he meets with a class where there are six distinct breeds, and only two prizes to be awarded, and in each breed a pen equal in all points. This is the class where the Bantam exhibiter has most cause to complain. I trust the Yorkshire Committees will not overlook the Bantam classes in the forthcoming season.—Little Sister Dandy.

BELGIUM CANARIES.

In reading over your most valuable paper, I find an advertisement headed "Belgium Canaries;" which goes on to say that the advertiser has several pairs for sale from Nottingham hens, and by W. Brown's cocks, that took the two first prizes at the All-England Show, Nottingham, in 1856. This is not correct. The Show came off in January, 1857; and was, I believe, the first of the kind ever held in England. I was fortunate, and took the two first prizes; and my father a second prize. I have the two birds by me at the present time, neither have they been out of my possession: and how Oliver Nicholson, of Fareham, can have the impudence to advertise birds from my stock I should like to know. Surely it is done to deceive the public.—William Brown, 41, *Great Hampton Street, Birmingham.*

PIGEONS.

TOYS.

Variety 9.—THE PRIEST PIGEON (*Columba sacerdos*).

French. Pigeon Coquille Russe. — *German.* Die Pfaffen Taube.

The Priests are another order of the monastic Toys; they seem very plentiful in Saxony, and their French name points also to Russia; they derive their name from being hooded, and having the crown of the head white, bearing some resemblance to the shaven tonsure of the Catholic priests.

They are about the size, or slightly stouter than a common dove-house Pigeon, to which they are closely allied; but have broad turned crowns, and the feet are generally somewhat feathered; the eyes are gravel coloured, but frequently broken, or half dark, and half gravel.

The chief point is the tonsure. The upper mandible must be white, and the whole of the top of the head; the line of division passing from the corners of the mouth across the eyes, and evenly around the inner side of the hood; the rest of the plumage being of some of the following colours:—

Herr Gottlob Numeister, enumerates five varieties of colour.

1. The Black Priest Pigeon, without or with white wing-bars, and also with spangled shoulders.

2. The Blue Priests, which have the same markings as the preceding.

3. The Red Priest. Of these he remarks they are rarely met with, with white wing-bars, in which case the flight and tail are too often strawberry or mealy; but it is desirable that the whole feather should be a fine dark-brown red.

4. The Yellow Priest has the same markings as the Red, but is more difficult to obtain with white wing-bars.

5. The clear Blue Priest. This, with the exception of the white tonsure, is of a beautiful light or mealy blue, without any other marks, not even black wing-bars.

The Priest Pigeons are considered excellent breeders, and field well. A sub-variety is also known in Germany, as the White-tailed Priest, or Pilferer. They differ from the foregoing only in having white tails, but are rarely so accurately marked.

The German Mönch, or Monk Pigeon, is another of these Toy ecclesiastics. They are also rather stouter than the Dovehouse, and are not quite so active as the Priests; their breasts and backs are broad, the head smooth, and the feet are heavily feathered; their heads, tails, flights, and feathered feet, are white, and the rest of the body coloured; as black, blue, red or yellow; some of them have white wing-bars; the red and yellow very rarely.

I have seen some of these Blue Monks, with spangled shoulders. All have mud eyes; and they may be regarded as Toy Bald-heads.

The Capuchin is a very similar variety, if, indeed, it be worthy of such consideration; it differs from the Monk, in having a hood or turned crown, and bare feet. They are of various colours; but I never saw any with white wing-bars or spangled shoulders.

Tastes may differ, but I cannot see any advantage in cultivating these Bald-head Toys; for, since we already possess Bald-head Tumblers, and Jacobins; and in Germany, Bald-headed Trumpeters and Powters, are obtainable; these have not even the plea of novelty of marking, to repay us for our trouble of breeding them to feather.—B. P. Brent.

OUR LETTER BOX.

Eggs (A *Constant Subscriber*).—You never will have a good supply from your Dorkings in winter. At this season, pullets of Buff or Dark-feathered Cochin-Chinas will lay plentifully.

Points in the Andalusian (*An Old Subscriber*).—It is not required in an Andalusian fowl to have as much white face as the Spanish. There should, nevertheless, be some. White legs would certainly be a disadvantage, if not a disqualification. Andalusians, as the name indicates, are a Spanish fowl, and have some points in common, although they are not so positively insisted upon.

Spanish Cockerels' Combs (*E. H.*).—It is difficult to point out what you desire. It has almost disappeared; but there was a breed in which every comb fell naturally over, and became a fixture. It could not be raised without operating. Even now you will see some cock chickens whose combs fall over from the time of hatching. If you can contrive to fasten the comb in an upright position for a time, it will retain it.

Gloucestershire Poultry Show.—"In reading your report of the Gloucestershire Agricultural Society's Poultry Show, I observe an error with regard to the weight of the Rouen Ducks. The heaviest pen being stated at 15¼ lbs. I beg to state that the weights of my two pens of Rouens were, respectively, 18 lbs. and 21 lbs.; and that of the Toulouse Geese 48 lbs."—William Joshua.

Diseased Wings in Pigeons.—"I shall be obliged if you can suggest the cause of, or a remedy for, a complaint which, within the last week or two, has attacked some of my Pigeons. The symptoms are a swelling in the joint of the wing; the wing at the same time dropping, so that the tips of the flight-feathers touch the ground as the bird walks; and causing a great difficulty in flying. The birds are in very good condition and feather, and appear in every respect quite healthy. They are confined in a large room, not crowded; are supplied with plenty of fresh water, salt, old mortar-rubbish, and sand; in fact, are well cared for, but have not their liberty."—A. X.

[I am not practically acquainted with the disease "A. X." complains of. It is probably either "the flesh wen," or "bone wen," treated of by the old writers. In Mr. Eaton's edition of the works on Pigeons, occurs the following:—"The flesh wen is no more than a fleshy tumour, arising on the joints of the wings and legs. This may be either cut off, or opened; and after having taken out the kernel, wash it with alum water." "The bone wen is an ossificated tumour arising upon the joints as before. This is seldom or never cured, and the Pigeon that is affected with it will never breed. Some pretend to cure it by a composition of quick-lime and black soap; but if you make it too strong, or let it lie on too long, it will take off the leg or other part that it is applied to, for it is a caustic." I can only suggest a change of water and green food, as a probable preventive.—B. P. Brent.]

LONDON MARKETS.—December 14th.

COVENT GARDEN.

Abundant supplies of both in-door and out-door produce; and a slight improvent in the trade. *Pears* now comprise *Glout Morceau, Chaumontelle, Jean de Witte, Beurré d'Aremberg*, and *Nelis d'Hiver*, with some inferior varieties. From the Continent and elsewhere, large consignments of *Grapes, Oranges, Apples*, &c., reach us in good condition. The stock of *Potatoes* here, and at the water side, is still heavy, and likely to continue so while the weather is so open. Top samples have advanced 7s. to 10s. per ton this week.

POULTRY.

There has been a slight improvement in trade during the past week, and the over-supply of Game appears to be checked; but it has been such as has never before been seen.

	Each.		Each.	
Large fowls	5s. 0d. to 5s. 6d.	Grouse	1s. 9d. to 2s. 0d.	
Smaller do.	3 6 ,, 4 0	Snipes	0 9 ,, 1 3	
Chickens	2 0 ,, 2 6	Hares	2 0 ,, 2 6	
Turkeys	6 0 ,, 15 0	Rabbits	1 4 ,, 1 5	
Geese	6 0 ,, 6 6	Wild ditto	0 8 ,, 0 9	
Ducks	2 6 ,, 2 9	Pheasants	1 9 ,, 2 6	
Wild ditto	1 9 ,, 2 0	Partridges	1 6 ,, 1 9	
Teal	0 10 ,, 1 0	Pigeons	0 9 ,, 0 10	

Larks, per dozen, 0s. 8d. to 0s. 10d.

London: Printed by Hugh Barclay, Winchester, High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietors, at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—December 15, 1857.

WEEKLY CALENDAR.

D M	D W	DECEMBER 22—28, 1857.	Weather near London in 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
22	Tu	Genista spinosa.	30.103—29.906	47—35	W.	—	7 a. 8	51 a. 3	10 23	6	1 3	356
23	W	Clematis Bœtica.	30.030—29.864	41—29	N.W.	—	7	52	11 41	7	0 33	357
24	Th	Medicago frutescens.	29.473—29.014	46—22	W.	.17	8	52	morn.	8	0 3	358
25	F	Christmas Day.	28.867—28.862	34—18	N.E.	—	8	53	1 3	9	bef. 27	359
26	S	St. Stephen.	29.041—28.837	35—20	N.	—	8	54	2 29	10	0 57	360
27	Sun	1 Sunday after Christ. St.	29.380—29.211	32—11	N.W.	—	8	55	4 0	11	1 27	361
28	M	Innocents. [John Evan.	29.770—29.510	30—21	S.W.	—	9	55	5 33	12	1 56	362

Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 43.3° and 31.1°, respectively. The greatest heat, 58°, occurred on the 25th, in 1827; and the lowest cold, 9°, on the 22nd, in 1855. During the period 125 days were fine, and on 71 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 158.)

WET PAPER PROCESS.

Suitable for Architecture and Landscapes.

Two Porcelain pans with lipped corners.

(*Price*, 7½ *in. by* 6 *in.*; 1*s.* 6*d.*; 13 *in. by* 11 *in.*, 4*s.*)

A slab of 3-16" plate glass four inches larger each way than the size of picture.

Canson's negative paper.

(22½ *in. by* 17½ *in., per quire*, 3*s.*)

Preparation of Paper.

Solutions.	*Cost.*
A.—45 grs. of iodide of potassium in 3 oz. of distilled water	8d.
B.—50 grs. of nitrate of silver, 1½ drachms of glacial acetic acid, 1 oz. of distilled water	10d.
C.—5 grs. of gallic acid in 1 oz. of distilled water	3d.
D.—4 oz. hyposulphate of soda in 1 pint of common water	6d.

N.B.—Place the bottle in warm water while the gallic acid is dissolving.

The paper cut in pieces a little larger than the size of the frame, is suffered to imbibe solution **A** in the same manner as described at page 125. It must then be hung up till dry.

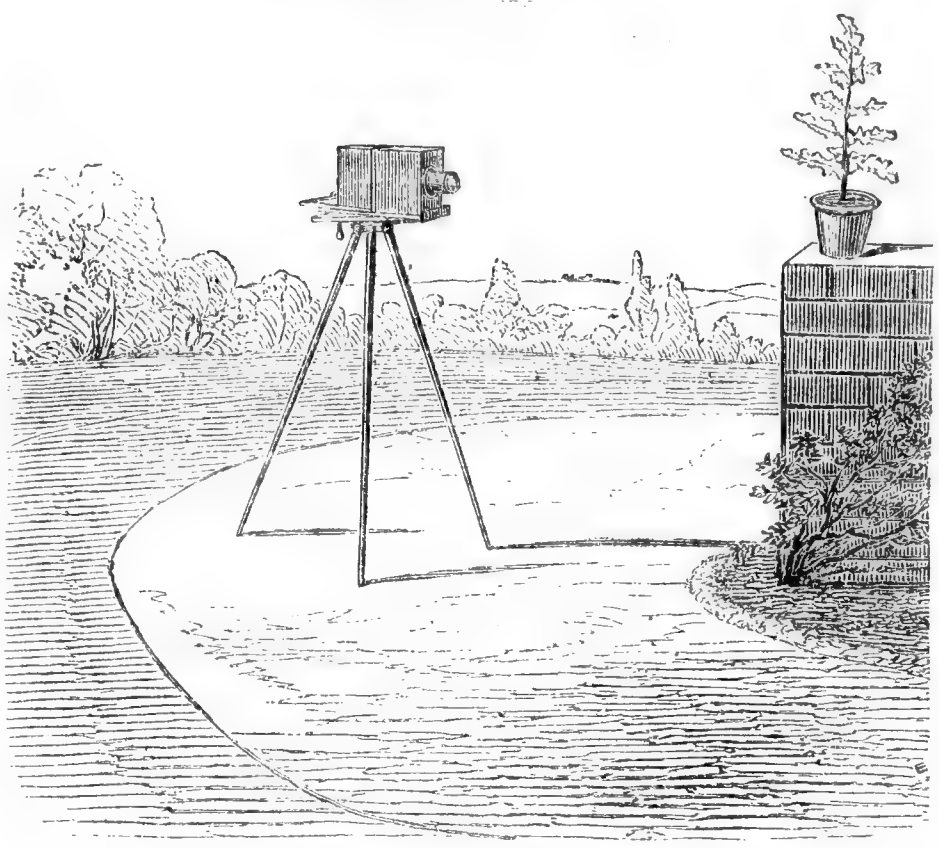
It may be kept in a dry portfolio, and will not be injured by exposure to light.

N.B.—The prepared side must be marked in one of the corners.

Taking the Picture.

The camera is fixed on the stand, and the lens focussed until a perfectly distinct picture appears on the ground glass (or, in the case of an ordinary instrument, the ground glass frame must be removed after focussing); which must then be drawn into the upper part of the camera.

Its position on the stand being noted, the camera is taken to the dark room (when the frame is separate from the camera, the frame only need be removed), where a piece of the previously iodized paper is floated on solution **B**; after five minutes it is placed *wet* in the camera frame, and the latter attached firmly to the camera.*



Having covered the lens by means of the stop, the camera (or frame) is removed to the stand; and, being placed in position, the cap is withdrawn; or, in the case of a distinct frame, the slide in the back pulled up for a period, varying with the intensity of the light, of from five to twenty minutes. The proper time of exposure will be ascertained by practice.

The picture taken, the lens is again stopped, the slide shut down, and the instrument removed to the dark room. The paper is then floated with its prepared side on solution **C** until the image developes itself with intensity.

When sufficiently intense, the photograph is washed; then fixed by soaking in the solution of hyposulphate of soda (solution **D**) till the yellows of the picture are changed to a *clear* white; then wash *well* in water.

This produces a *negative* photograph; that is, the natural lights and shades are reversed.

To produce a *positive* picture the negative is

* We are indebted for many of our woodcuts, to the courtesy of Messrs. Horne and Thornthwaite, Opticians and Photographic Instrument Makers, 121, Newgate Street, London. We recommend our readers to inspect their stock.

printed from on salted nitrate paper in the pressure-frame before described (page 109.)

If the negative be carefully preserved, it will serve to produce an *immense* number of copies.

(*To be continued.*)

THE EXPERIMENTAL GARDEN.

The chronicles of the Experimental furnish ample testimony that Surbiton out-of-door Grapes, in the last generation, could vie with our greenhouse Grapes of the present day. The facts are well worth public record; and the occasion will enable me to gratify a public curiosity at the same time. The *Esperione* was the cause of the search; and the consequence may be the establishment of a second experimental vineyard at Surbiton.

Immediately before the French revolution, which led to the long war that ended at Waterloo, this part of the valley of the Thames, and a circle of ten miles in diameter, with Hampton Court in the centre, were the focus of fashionable life. The Prince of Wales, the Duke of York, and the rest of the royal dukes, met the hounds, and took part in all the land and river sports of the time, with the yeomanry of old England, who vied with each other in outbidding for every "house," "place," or "cottage," which came into the market, so as to have a "box" near the fountain of honour in this vale. One of these yeomen, from the county of Norfolk, was the proprietor of Surbiton Place at the time I mention; and, among other good things, he was noted for the extent and the high keeping of his gardens, his hothouses, and particularly for his out-of-door Grapes. The *Black Hamburgh*, from the Hampton Court Vine, ripened three times out of four seasons with him on a south-east aspect. His gardener's name was Miller, a scion of the family of the author of "Miller's Dictionary," and the father of the present curator of the Experimental Garden was one of his under-gardeners.

Early in the present century, the royal dukes had to forego their pastimes here, and betake themselves to the fields of gore and glory abroad; and the circle of ten miles of diameter became as dull as the circle of a water-wheel. Consequently, those of the circle who did not follow the British lion, betook themselves to their more distant estates in different parts of the country; and in 1809, Mr. Tassett sold his estate here to the Earl of Uxbridge, the father of the first Marquis of Anglesea, and went down to his Norfolk estates. The Earl kept up the gardens till his death, in 1812; and his Countess after him, till her decease, in 1817, in the same style, and with the same hands, as formerly. Sometime afterwards, the estate was sold to Alderman Garrett, of London; and he turned out a first-rate gardener, remodelled the gardens, and took especial care of the "great Vine"—the out-of-door *Hamburgh*. It occupied 100 feet in length of an eight-feet wall; and he made a glass wall of that size to front it at eighteen inches from the brick wall. There were twenty-four lights, and they ran on rollers in a groove top and bottom, the top-roof being of boards. When our curator was a young man, he helped to put up and take down this glass wall, and to give it air by working the lights "backwards and forwards" on the rollers; and the Grapes were, "if anything," finer than those on the mother-plant at Hampton Court, just opposite on the other side of the Thames; and they ripened perfectly every year.

In all my researches about the *Esperione*, I have not discovered any material improvement on cultivating Grapes, without fire-heat, on this plan by Alderman Garrett; which plan was then, as far as I can make out, quite original. But not longer since than yesterday, her majesty, "Queen Mab," told me that the patent-glass walls answered perfectly in North Wales, in the hands of the patentee, Mr. McEwen.

All who are conversant with the Hoare system of growing out-of-door Vines, know that, hitherto, the plants are improving in health and strength every year since he wrote the first edition of his treatise; or say, that for the first fifteen or twenty years Vines will go on improving under this system, other things being right and favourable; but, according to the nature of things, a day will come when this system will check the power of the Vine to its hurt. It is too limited, or, rather, he has recommended it to be so kept; his own experience not going beyond the allowing from thirty to fifty or sixty square feet to each Vine; but we have seen that in fourteen years, Mr. Aiton, the royal gardener, allowed 800 square feet to his three plants of *Esperione;* and Alderman Garrett's Vine here, in Surbiton, occupied 800 square feet itself, and was in the height of its vigour when he put the glass wall in front of it, some forty years back. My *Esperione*, in Herefordshire, was sixty feet long; and it occupied, at least, every inch of eight feet of a higher wall, or 480 feet full, with no symptoms of having got to its full size at the age of from twenty to twenty-five years. Therefore, to confine such a plant, or such a kind of Vine, to forty, fifty, or sixty square feet, as Hoare recommends, must turn out, in the end, like budding a dwarf Rose on a tall stem of the Dog Rose. We might be able to determine the point more accurately in Surbiton, were it not that the garden and great Vine fell into the hands of Mr. Raphael, late M.P. for somewhere, about which he and Mr. O'Connell made a bad use of their law and logic. Mr. Raphael sent all the gardeners adrift, rooted up the great Vine, pulled down the hothouses and every roof within his reach, and enclosed the estate with high brick walls all round for miles; while he himself lived with only one servant-man, "Old Joe," and a single maid, who was deaf and dumb. He was a very charitable man with it all; and if he had but spared that Vine, he would have shown more charity at home. Now, however, every brick of his walls is gone since I came here; the estate is cut up into small patches, each about enough for a drying-ground in the country, with a splendid mansion to each "lot;" and more than a thousand pounds worth of gardening has been done already to some of these miniatures; whilst we on the other side of the wall waste whole lots in trying experiments for the use and guidance of the outer world.

The Experimental, and the estate thereto belonging, are now the property and residence of a lady; the only daughter of the gentleman who handed over that great Vine to Lord Uxbridge, the father of the hero who left his right leg at Waterloo. When it was told, in London, that I took part of this property for an Experimental Garden, for which I was to pay £15 the acre, people began to wish to see it, to know how I could make it pay; some went even as far as to say, that "this would soon ruin him," "sink or swim now he must," for he was "in for it;" and some said it was a pity, he was a man that could very ill be spared—he was universally liked in the craft; and yet everybody feared him, or rather feared themselves, that they could not rise to his standard. From that day to this, misconceptions more or less have been entertained about this garden, of which I was hardly aware for a long time; and not altogether, till one day last July or August, when my attention was seriously drawn to the subject, by my worthy coadjútor, Mr. Fish; and now I redeem my promise to him, that I should put the saddle on the right horse, at the first opportunity.

Well, then, before I was hardly settled in Surbiton, Mr. Jackson, of Kingston, whom I had known as an intimate friend for many years, suggested the experimental business, and this garden to me; and that before I entertained the slightest idea on the subject myself. He proposed, and he suggested, and he advised me, and said everything that a friend might be supposed to advance about a great and serious and responsible undertaking. Forthwith he introduced me to the family; and stated, that from his knowledge of both parties for so many years, he wished to see us put our heads together. He said nothing about the Horticultural Society, but I knew they were rapidly going down hill; and that something might be done for gardening in the meantime, till the worst came to the worst, when matters might mend, according to the adage.

The Horticultural bids fair now to reclaim the lost ground, for we added another score and one to the number of new Fellows on the 15th instant: and more than two-thirds of the recent elections have been Fellows who prefer the four pounds annual subscription, and the ivory ticket, to that of two guineas without such privilege. There were two more nurserymen elected this time:—Mr. Keynes of Salisbury, the great Dahlia grower; and Mr. Clark, Streatham Place Nursery, Brixton Hill. The next election of Fellows will be on the 2nd Feb.; and we expect many more gardeners and nurserymen will join us in the spring. We cannot be too practical: but, altogether, I think we shall do now. Still I should not wish the Experimental Garden, or the British Pomological Society, to relax one inch, until the practical bearing and forbearing of the New Horticultural Society are put beyond doubt and uncertainty.

Mr. Jackson has never since asked to see the Experimental; and all that I asked from the first was, that no one should see it on my account, well knowing the troubles which might thus be given to a private family for nothing at all. There is not one family out of five hundred who would allow their gardens to be turned into experimental grounds, for the good of the public; much less would allow all the world to break in upon their privacy: therefore, I hope no more applications will have to be refused, through want of a proper knowledge of my connection with the Experimental. The whole of the experiments, and all the expenses, have not cost me one farthing; and whether I "sink or swim," will not be owing to money matters, or speculations in this, to me, a mere pastime. But, on the contrary, I have a powerful auxiliary here, in determining the value of this or that fancy in beds and flowers, in Arboretums, and Fruticetums, and in all new or old plants for this or that arrangement, and for use and ornament. Besides all that, on our English side of the question, I have here the benefit of the ripe assertions of the French school on gardening, or colours, and on all kinds of arrangements of the same, from the private friends and visitors of the family who were of the Court of Louis Philippe in its palmy days, but who are now, like his own family, within the circle of our immediate neighbourhood, on account of the new order of things in their own country. Whether I shall be able to make the best of these rare advantages, I shall leave for others to judge; but, at all events, it would be a species of cruelty to drive me from the chance, to gratify a vain public curiosity which could not tend to any good whatever; and I shall just finish with a story to prove what I say.

Last spring a large party of ladies called one afternoon, who were struck with the quantities of spring-flowers, the order and the high-keeping of the place, and the seemingly new arrangements of old, very old plants. This led to a conversation about THE COTTAGE GARDENER; and what it had done, within the last few years, in all the practical branches of gardening.

"By the way, you have one of the writers of THE COTTAGE GARDENER here in Surbiton—Mr. Beaton. Do you know him? He has a garden entirely for experiments on flowers, but no one seems clearly to know how he does it." I was not within "ear-shot" of that conversation; but I happened to be in the garden at the time.

I was giving directions about planting fringes of the grass-like *Isolepis gracilis* round some vases in "Emerald Bay," as that part is called. And I may say in passing, that this Isolepis makes a most appropriate edging anywhere; that it stands perfectly upright after the first growth out of doors; and from June to November it is in one mass of bloom, such as it is. I think it has ripened abundance of seeds with us, out in these vases; and we are experimenting on it now to see if will stand the frost, or how much frost. It well deserves, and must have, a place among the "ornamental grasses."

But about the party of ladies. They could hardly believe their own eyes when they were told they were in the Experimental Garden. It was a garden after all—a very good one certainly; but then it was only a garden "after all." But when they were told that the writer aforesaid was then in the midst of the garden, and that they could hear from himself any of the details if they wished, there was a rustling among the shot silk. "Is he not a great genius about dress? How does my dress look? I long wished to see him; but I wish I was better prepared." The short and the long of it were, however, that the experiments were soon out of sight; that a well-kept garden may be, or may not be, an experimental garden, without one finding out which, without being told of it.

CŒLOGYNE PLANTAGINEA.—A large plant of this Orchid was exhibited before the Horticultural Society on the 15th instant, from the Bishop of Winchester; which was acknowledged by the Society, and by all the gardeners and nurserymen present, to be the most perfect example of the highest style of cultivation that has ever come within the knowledge of the Society. This is a strong-growing species, with long, round pseudo-bulbs; each producing two leaves at the end; sometimes only one leaf. The leaves look much in the way of those of a Stanhopea. There were nearly sixty pseudo-bulbs. The flowering is after the manner of Gongora, with long, drooping spikes all round the pot. Some of these spikes carried as many as sixty flowers; not very large individually, nor very striking in colours; but in the mass they were very rich indeed. I reckoned them thus:—thirty-five spikes, and thirty flowers to each; making upwards of one thousand flowers in the whole. D. BEATON.

MORAL AND SOCIAL ECONOMICS.

AN EXAMPLE.

A SHORT time ago, and somewhat accidentally, I became acquainted with some of the practices of a gentleman and his family, which I deem worthy to be recorded, as an example to others; though various reasons prevent me from indicating who that example is, farther than that, amid his multitudinous avocations, he is enthusiastically devoted to gardening.

If the old axiom, that "cleanliness is akin to godliness," has passed unchallenged, as current coin, it is but lately that the philanthropists of the age have acted as if they felt its importance. It has been well understood, that wherever moral purity was developed, it might be associated with great poverty; but it would be next to impossible, that it could exist in

connection with that absence of self-respect, and carelessness of the feelings and comforts of others, which are generally found united with filth and slovenliness. But it has not, until lately, been so well understood, that want of cleanliness, want of the possibility of being so, want of direct sunlight, and want of pure air, have constituted some of the greatest obstacles in the pathway of the moral and social reformer. Some years ago, I noticed in another publication, the beneficial change produced upon a neighbourhood, merely by moving the inhabitants into clean, comfortable, commodious cottages, out of tumble-down, dirty hovels, which no contrivance could enable the inmates to keep long in tidiness and comfort. The neat cottage was an ever-present sermon against slovenliness. The boots that never were cleaned, from the time they left the maker, were regularly polished, or oiled, at least every Saturday evening. The tatters were exchanged for good, whole, plain, substantial clothing. The flower-plot occupied the place near the door and window, where the cesspool and dunghill used to be; and the attractions of such a house and garden were greater than the snug quarters at the village inn, where most of the spare time of the head of the family was wont to be spent.

Many country gentlemen, from a felt sense of duty and responsibility, and looking upon the mere rent-roll from cottages as a very secondary consideration, have done great things in this direction; and, as a general result, have found themselves surrounded by an industrious, respectable peasantry. Mere sanitary considerations alone—those imperative laws, that will unite in one common interest, for weal or for woe, the rich and the poor, the dweller in the palace, and the exister in the hovel, independently of those heartfelt benevolent considerations that are more actively practical than ever they were before—have led to energetic inquiries; and, in many cases, adoption of means for improving and rendering more healthy the dwellings of the huge hives of human industry that are congregated in large cities and towns.

Before these improvements are effected, a great barrier will ever be opposed to the higher efforts of the philanthropist. Take a couple of instances at random. A *temperate* temperance advocate—and such a person is nearly as rare as a white blackbird—appeals to those who generally work in a stifling room; and tells them that the gin and the porter they consume do them no real lasting good; that they act chiefly as a stimulus to the system; and that, when that is gone, their whole physical powers will be more depressed than ever; and that all such stimuli, instead of lengthening, will have the tendency to shorten their existence. The men will thank him very kindly for the interest he has taken in their welfare; but if they do not tell him, they will be sure to remark when he is gone—"Ah! now if *he* worked so long hours in such a place as this, and then had such a small place to live and sleep in, and with all his toil could scarcely get two ends to meet, perhaps he might think less badly of us, for taking something to stimulate our flagging energies, in order to *help* us for the *present*, though well aware it would be no benefit for the future."

A clergyman finds but a small fraction of his flock attends the services on the Sabbath. He knows it is but little use to denounce or to plead on such matters from the pulpit; he more wisely visits the people at their homes and their workshops, and kindly urges them to attend the services of the sanctuary. And though many thank him for his kindness, many more in answer to his remonstrance as to Sabbath wanderings, will moodily murmur, "I wish he had our place for a twelvemonth; here for years, except Sundays, I have never had a day to myself; but he is engaged in one place only on Sunday, and goes where he likes during the week. He knows nothing of the want of fresh air for week after week." One great cause of the ministers of the Gospel losing hold of the masses, proceeds partly, I believe, from a presumed inattention to their physical condition. A great change has taken place in this respect, within a few years; and principally owing to the fact, that the most strenuous advocates for improving the dwellings of the working classes, for shortening the hours of labour, and for securing a half-holiday in the week, have been found amongst the clergymen of all denominations.

The gentleman I have referred to, as well as his partners in a large establishment, felt anxious to have moral and religious men in their employment; and were very sorry, on inquiry, to find that a great many of the men very seldom went to any place of worship. They instituted no test between church-going and employment, as some might have been disposed to do; they condescended to take counsel with the men, and patiently listen to their reasons, which were chiefly these:—That they worked long hours; that they lived in crowded courts and alleys; that they saw little of their families except on Sundays; and that, cherishing any thing but dislike for church or chapel, they yet did feel anxious to take their wives and families to Primrose Hill, Hampstead Heath, or even Greenwich, on the only day of the week in which they could do so; and thus, by breathing uncontaminated air, lay up a stock of cheerfulness and health for another week or two. Did these gentlemen scout such simple reasons, and refuse to make any allowance for circumstances? No! they said they would consider upon what could be done; and shortly afterwards it was decided that a certain number, fifty, I believe, should leave the establishment every day of the week, at twelve o'clock. So that all might have their half-holiday in turn: and it is affirmed, that in a pecuniary point in view, little or no loss has been sustained by the granting of such a favour.

In the case of workmen in the country, in the midst of pure air, there would not be a similar necessity: and in other cases it would be next to impossible to institute anything like such regularity. And while all who advocate such a measure should do so on the principle that the workman should consent to an equivalent deduction, until, at least, he had satisfied his employer that he had sustained no loss by the change; still, as we are all fond of variety, and liberty and change of scene have a tendency to make us buoyant and cheerful, I must say that the giving of holidays now and then, that tend to the benefit of the workman, so far as my experience goes, is so attended with increased energy, that the employer gains rather than loses by his generosity. As the gentleman referred to employs many workmen at his country residence, I regret I did not make inquiry as to what system of that kind had been introduced there. To that country residence our two or three other facts will be confined; passing over the building of a church, and the institution of schools, as circumstances happily not at all peculiar among our landed gentry.

Among the means for enlightening and elevating the moral susceptibilities of the rising race, a first place must be given to Sunday schools. They will generally be found most useful, when the children have access also to good day schools besides. Even *now*, however, there are many places where all the education the working man's child receives, is obtained at a Sunday school. As a nation, we have never felt our gratitude to the self-denying men and women who, in such circumstances, have cheerfully undertaken such arduous duties. Leaving out of calculation higher considerations, and looking upon these institutions in their

most material point of view, there can be no question that a prosperous Sunday school in a village is a better security for property and order, than a band of constables or policemen would be. Amongst many other drawbacks to their usefulness, I will here allude only to three:—want of the means for getting books, &c., for the children; no want of earnestness in the teachers, so much as the want of knowledge and the aptitude to teach; and when these desirables are all present, there is frequently a want of respect from the scholar to the teacher, because the latter may be only a little older than the former, and is placed in the same position in society. Now, it will be seen that these drawbacks will be reduced to small compass in the school at ——; where, every Sunday morning, the squire, and all his youthful sons who are at home, may be seen taking their places as teachers in the Sunday school.

Most well-ordered families make it a point to assemble their households twice a day to acknowledge the source whence their blessings come. But in addition to this, Mr. ——, finding he had from fifteen to twenty minutes to spare from his multitudinous duties, has had the whole of the garden men assembled every morning in a common garden shed; meets them there to the minute; makes himself, as it were, for the time one of themselves; reads and explains a portion of Scripture; and finishes with simple earnest worship at the footstool of their common Creator. The gardener told me that he had at first great doubts of the plan answering, owing to various circumstances; but that a great and good change had been manifest. And not only was the demeanour of the workmen much improved—a deeper respect, akin to but more than gratitude, manifested towards their worthy employer—but a greater industry and an absence of eye-service were exhibited; the consequence, as he rightly thought, of the felt fact, "that they were cared for."

Our social reformers would, in all likelihood, have been more successful, had they kept in view that man is a thinking and a social being. What a startling fact, that there is not a moment in our conscious existence, in which thought is not whirling through the brain! We *must* think. Thinking is part of our nature; upon what shall thought be fixed? the pure and the elevating, the degrading, or the trifling? Thoughts will not continue thoughts—they will issue in word and action. Even pleasure becomes pain if we cannot express the pleasure we feel. Each man, therefore, is not merely a thinker, but a suggester of thought; a centre of action and influence. What is there in many of our villages to give an elevating direction to thought? What to lead our social yearnings into legitimate virtuous channels? Why, there are the excellent cheap publications of the day. Yes! but are they yet found generally in village homes? And if they were, what would be their use to those who could not hear them read, who had never learned to read themselves, or who, once instructed, had, from want of practice, forgotten all about "how to do it?" And such cases, striking as it may seem, are yet to be found. Need we wonder, that in such cases, the field of thought should be rather barren of the useful? Need we wonder, that, prompted by sociality, a certain rendezvous should be too well frequented, where men can give full play to their lungs in chorusing some namby-pamby jingling of words in rhyme—smile knowingly at the indelicate jest—and laugh roaringly in commendation, at the puniest and stalest attempt at wit? Condemn all this as much as you please, if you will only take the trouble to inquire what other and better means exist on working-day evenings, to meet the desires of the heart for companionship, different from those that can be found at home and in lodgings. The worthy gentleman referred to has tried to meet this want. A comfortable room, generally and easily accessible, has been provided; furnished with tables, seats, slates, ink, and paper; and with fire and candle in winter. A good library has been provided; and many of the best periodicals are supplied regularly, such as those issued from the depôt of the Messrs. Drummond, of Stirling; the Religious Knowledge Society; the Tract Society, as "Sunday at Home;" the "Leisure Hour," &c. So far as I could learn from our friend, the very intelligent gardener at the place, the system adopted is as much as possible on the principle of mutual instruction. A feeling not merely of self-respect, but of mutual dependance is thus promoted. The young gentlemen when at home, countenance it frequently with their presence; showing that they are willing to be either learners or instructors. I also understood from another quarter, that the gardener and bailiff felt it to be both a duty and a privilege to be present. It would be very interesting to have an account of the doings of this little room, though these could be varied to suit circumstances. Much of the success has, no doubt, being owing to the tact and prudence displayed. As yet, the room has been well attended; and the frequenters are not only gaining in intelligence, but testify by their appearance and deportment, that they estimate, and are resolved to profit by, such means of improvement.

I must here finish for the present these characteristic traits. Many curious people would like to know all about the who, and the what, of this philanthropic gentleman; but, as all that I heard, led me to believe, that as he is too great-hearted to allow any opening for bigotry or intolerance, so is he too earnest in doing good, to wish his name to come before the public; and therefore, instead of gratifying such curiosity, I would wish every reader to inquire, whether such an example is worthy of imitation; and if so, then ask ourselves how far could we imitate, and how far have we imitated, such an example. R. Fish.

FLORISTS' FLOWERS.

SHORT HINTS FOR DECEMBER.

Auriculas, Polyanthuses, and Primroses.—This is a trying season for these lovely spring flowers. The greatest error in culture is keeping them too much protected. If kept in a dry atmosphere, and nearly dry at the root, they are as hardy as any plants from the alpine regions. Their grand enemies are damp and closeness. Give them, on all favourable occasions, a full exposure to the air and the light. If water be absolutely necessary, give it with a very small spout, taking care not to wet the leaves. Keep a good look out for slugs, and destroy them. See that every decaying leaf is instantly removed. Should very hard frost set in, have mats, or other coverings, ready to protect them; but do not let that covering remain on any longer than necessary.

Carnations and Picotees.—The stock of layers should be looked over frequently, and every spotted leaf cut out. Should mildew appear, sprinkle with sulphur the leaves affected. Do not coddle them, but give them plenty of the air and the light of day in dry, moderate weather. Sometimes, even at this season of the year, the red spider will appear. Whenever that is the case, let every plant affected be taken out of the frame, and the under side of the leaves be carefully sponged over; the sponge moistened with tepid sulphur and water. Towards the middle of the month go over all the plants, stirring up the surface of the soil, and clearing away weeds, decayed leaves, moss, and other offensive matters. Keep the ashes clear also;

and whilst this counter-dressing is going on, spread a thin layer of dry ashes on the surface; they serve admirably to attract damp from the air when the frames are obliged to be kept closed.

Dahlias.—Wherever these are kept they will now require a close supervision. All decaying bulbs must be cut in to the live, sound part. Some make long, small tubers, and are very apt to either rot or dry up. Such of highly esteemed varieties would be safer if they were potted at once, and put into a warmer temperature. In moving the tubers for inspection, be careful that the names or numbers are not detached. All decaying stems should be closely cut in. Such as are in store pots should be examined and seen to, that no drip fall upon the soil or stems.

Cinerarias.—In frames, these plants must be very securely covered, and protected from frost. In the greenhouse, the first stem that appears should be nipped, in order to give a good branchy head of bloom. In here they require rather abundant supplies of water. Cleanliness is, above all things, to be closely kept about these plants.

Chrysanthemums will now be going out of bloom, and are then anything but ornamental. Cut such down; and, if not wanted for next year, remove them at once to the rubbish heap. The others may be kept well enough through the winter plunged up to the rims of their pots in ashes, and slightly protected from frost.

Hollyhocks.—All good kinds should now be in pots, in frames, or pits. If left out, most of them will become so weak as hardly to be able to flower the next season. Any young slips, where they can be spared, may be slipped off, potted in small pots singly, and placed in gentle heat. Such, when struck, make, with proper nursing, excellent blooming plants next year. Look to your seedlings, and prick them out in boxes whenever they are too thick. Such seedlings will show whether they are good for anything, even the next season. Hollyhocks suffer from long-continued rains; their leaves rot, and decay gradually extends to the shoots, whilst the roots continue healthy and sound; clearly proving the great advantage of putting them under cover to keep the leaves and shoots dry.

Pansies in Beds.—But little can be done to these plants at this season. Should winds prevail, stick amongst them some branches of evergreens, and press the earth gently against the stems of such as appear loose. Hard, dry, windy frost, when the ground is bare, is very injurious, frequently twisting them off, and blowing them away. The evergreens will be very useful in such weather. In pots in frames the Pansy thrives well, and at this season should have a good winter-dressing previous to the keen frost of January. As food for slugs is now scarce, they will crawl into the frames, and in a single night may destroy a good plant. Wherever their slime is seen, follow it up till you find the skulk, and destroy it.

Pinks.—If all have gone on well, the plants will be of a dark green, bushy, squat to the ground, and firm in it. If the soil be very light, a slight treading will be of great service. Some florists keep their best varieties, or, at least a part of them, in pots. This is a wise precaution; for sometimes a disease comes on just at the neck of the plant, and it perishes, and then the reserve stock is useful to fill up the blanks. In all such cases, however, the soil for six inches square ought to be removed to as many inches deep, and fresh soil brought in to the place before planting out the healthy plants.

Tulips.—This fine autumn will, in many cases, have brought up some of the more early plants.

Verbenas.—The store pots of cuttings should now be all in their winter quarters, either on shelves in a greenhouse, or in well-protected frames. They will require water when dry, especially those on shelves, and occasional smokings with tobacco, to keep down the green fly. Keep them dwarf by cutting off the spiring tops; and should mildew appear, sprinkle them with sulphur. T. Appleby.

NOTES ON NEW OR RARE PLANTS.

Camptosema rubicunda. Nat. ord., *Leguminasæ*.—A native of Brazil. A climber of moderate growth. Stem rather stout, with a very rough wrinkled bark, and almost destitute of foliage. Branches round, smooth, and rather leafy. Leaves alternate, on longish petioles; trifoliolate, with the leaflets on small petiolules; oblong retuse. Racemes irregular in length, from six to ten inches long; many-flowered; slightly drooping. Calyx based by two small bracts; tubular four sometimes six-lobed. Corolla pretty large, with the petals about equal; beautiful scarlet with a slight tinge of purple.

A stove climber of easy cultivation, but producing foliage rather sparely; and, being somewhat shy in flowering, it may never become a general favourite with cultivators. While in flower, it is certainly a very pleasing and an attractive plant; but the blooming season is of so short duration as scarcely to make up for the want of beauty in the plant at other times. It would seem to do best planted out in a compost of good fibrous loam and peat, the former predominating, and trained to the rafters or trellis near the glass. When cultivated in a pot, it neither grows nor flowers so freely as when planted out. It may be increased by cuttings in the usual manner for stove plant cuttings, or by seeds, which it produces occasionally.

Ceanothus rigidus. Nat. ord., *Rhamneæ*.—Recently introduced by Mr. Hartweg, from California. A small, compact, evergreen shrub, with numerous opposite, rigid, leafy branches. Leaves very small and profuse, on short petioles, slightly cuneate, retuse; margins distantly notched with short teeth; dark green, with the veins finely retiulated on the under side. Inflorescence somewhat corymbose; lateral flowers small but very numerous; beautiful bright blue.

This little shrub is quite hardy in this locality (Surrey); but does not bloom very freely out of doors. It flowers very profusely in a cool greenhouse, such as New Holland plants are kept in.

For pot culture, a good, rich, fibrous loam, not too heavy, with a free drainage, is all it requires; and out of doors it should have a good soil, more dry than moist, a free exposure to the sun, and the shelter of a wall, or some other fence, from cutting winds.

Argyreia hirsuta. Nat. ord., *Convolvulaceæ*.—A native of the East Indies. A rapidly growing stove climber. Stem and branches round; the younger parts densely covered with long, light-coloured hairs. Leaves alternate, cordate; margins entire; veins very prominent, quite soft from hairiness. Peduncles long, rather hairy, bearing few flowers. Bracts linear, lanceolate, opposite. Calyx of five ovate, erect sepals. Corolla slightly campanutate; tube long; limb seemingly divided into five lobes; large, purplish lilac.

A very striking plant from its extreme hairiness in almost all its parts, but not particularly worthy of cultivation, because of the short duration of its flowers. They are certainly beautifully delicate in colour, but neither plentiful nor lasting. Peat and loam, in nearly equal parts, seem to suit it best, with a copious drainage. Strikes freely in strong bottom heat, under a bellglass in very sandy peat.

Stokesia Cyanea. Nat. ord., *Compositæ*.—A native of Carolina. Herbaceous perennial, with fibrous roots. Lower leaves lanceolate, sinuate; becoming

reduced at the base into a winged petiole of ordinary length. Upper leaves sessile, embracing the stem; lanceolate, serrate, at the base, smooth, as are also the lower leaves. Stems numerous, about eighteen inches high, bearing each several flowers; obscurely angled, somewhat downy. Involucre large, lax, composed of numerous lanceolate scales, fringed at the base, green. Florets of the ray large, spreading, dividing at the margin into four, sometimes five, deep segments; bright purplish blue. Those of the disk also large, and of the same bright colour.

A remarkably beautiful plant, quite hardy, beginning to flower in the middle of October, and lasting gaily quite through November.

Although it has, for many years, enjoyed a place among cultivated plants, it is yet, I think, little known to admirers of hardy herbaceous plants. It would continue in rich bloom much longer in the more southern counties, as it is destroyed near London by frost and wet long before it shows any symptoms of decline. It should enjoy the sunniest place in the herbaceous border, in a moderately rich soil, and have its stems tied neatly to a stake.

Increases readily by division. A handglass placed over the plant, or a part of it, materially assists it in perfecting seeds; and thus secures the best means of transmitting it to a friend.—S. G. W.

ABNEY HALL,

The Seat of Sir James Watts.

The city of Manchester has become world-famed on account of the grand Exhibition of Art Treasures now closed. Like the grand display in the Crystal Palace in 1851, it is now only a matter of history; and, by fond recollection, deeply is impressed on the memory of the numerous throngs who visited both. No one, however, has greater reason to look back with pleasure upon the Manchester Exhibition than the gentleman whose name appears at the head of this article. It was during the period of his holding the honourable office of chief magistrate of this city, second only in population and wealth to the metropolis of this great empire, that this rich collection of the treasures of art was exhibited to the admiring world. It will be in the recollection of our readers that I had the pleasure of giving a report of a grand horticultural show held in the Botanic Gardens at Manchester in May last. The temple of the Art Treasures adjoined the gardens; and, in consequence, the public had an opportunity of seeing on the same day the triumphs of gardening art, as well as those of the higher branches of artistic skill. Amongst the exhibitors, none were more successful than the gardener of Sir James Watts. From what I saw and noted of the plants from Abney Hall, I felt certain that the gentleman had not only spared no expense in purchasing the plants, and erecting suitable buildings to grow them, but that he had secured the services of a gardener that understood how to bring them to perfection, and had patience and perseverance to effect that achievement. Ever since that exhibition, an increasing desire pressed upon my mind to visit the place where such good specimens were so well grown. Various circumstances intervened to prevent my desire being gratified until recently.

At this time of the year, however, there is not much to be seen in gardens; but the prophetic eye can discern preparation for the ensuing campaign; and it is a barren place indeed where there is no peculiar practice for the visitor to note and describe. To cultivators just beginning to grow specimens, a visit to such a place as this is, at any time of the year, a good school to learn how to proceed in the art; for art truly it is of bringing stove and greenhouse plants into shape and health. To be in such a place as under-gardener is a great privilege; and young men ought to be very grateful and thankful to have the opportunity, not only one day, or two, or more during the year, but every day, of seeing the operations carried on. They ought to watch and study every move for preparing the soil or compost, draining the pots, potting, tying-out, stopping, watering, and general management. Such places are invaluable for teaching and training up young men to become head-gardeners for the next generation. And I earnestly press upon them the duty they owe to themselves and their future employers, to lay up such a stock of knowledge as may render them, at least equal, if not superior, to their teachers in the art of gardening in all its branches, from growing a tuft of fine Parsley to producing a noble Pine Apple.

Abney Hall is situated on a gentle eminence in a rather flat district. It is about five miles from Manchester, close to the pleasant village of Cheadle. There is an omnibus from Manchester runs by the gates, nearly every hour. In fine weather it is a very pleasant ride; you pass by many beautiful villas, residences of the opulent tradesmen of this busy city.

On entering the gates, I noted an avenue of the better kind of Conifers, such as Araucarias, Deodars, Pinuses, &c., which give you an idea at once of refined taste. The carriage-drive is wide, and gently curving towards the mansion. A plantation of evergreens conceals, in a great measure, the lower part of the house, till you are close to it. This is, undoubtedly, good taste; for nothing is more unpleasant than to be stared at in your private rooms, even in your own grounds. There is an entrance-front and a garden-front.

To the left, as I approached the mansion, I noted a well-arranged sheet of water, the extent judiciously concealed by bends and swellings planted with evergreens and Weeping Willows. Behind the house, the kitchen garden and the spacious stables are placed. Directly facing the entrance-hall is an avenue of Chinese Junipers, with a grass lawn between. The Junipers, however, do not appear to thrive well. The climate round Manchester is so damp, that most of the Conifer tribe will not thrive. One exception here, however, is very conspicuous, and that is the Austrian Pine (*Pinus Austriaca*). I have never seen any elsewhere so healthy, with such long, densely-massed leaves. The climate of this part of Lancashire exactly suits the Rhododendron and other American shrubs. Hence, I think cultivators and owners of estates should plant such more largely than any other. The avenue referred to above, from the front door, directs the eye to a fine object in the distance—a village church, with a handsome lofty spire.

Turning to the right off this avenue, I entered the kitchen garden, which is laid out in the usual style, that is, straight walks and square quarters. There are dwarf Apple trees on each side of the centre walk, which are now becoming large trees. In my opinion, no such trees should ever be admitted into the kitchen garden. They shade it too much; and their roots run into the quarters, where they rob the vegetables of their support, and often have their own roots wofully mangled. If orchard fruits must be grown in a garden of vegetables, let them by all means be grown on the espalier style, or else trained as pillars, at wide distances apart.

On the south side of this vegetable garden there is a fine range of three vineries, between forty and fifty feet each in length. The border is aired; that is, there is a chamber under it communicating with the outward atmosphere by means of upright shafts at intervals, in front, next the walk. The gardener seemed to doubt the utility of this. I suggested that if the chamber could be heated by hot-water pipes, then the chamber would be really useful, especially for early forcing; for nothing can be more absurd than setting the top of a tree to grow as if in summer, and covering the roots with ice at the same time. Summer it is inside, and winter it is outside, at the time the Vine is forced into growth in our early vineries. The Vines in this range are about four years old, and appear healthy and strong enough to produce good Grapes.

The interior is rather crowded with miscellaneous plants. I rather objected to this; but the gardener said, he was obliged to keep them there to supply the large conservatory near the house with plants in flower. Behind these vineries the plant-houses are placed. There is a rather large greenhouse, with span roof, and a stove of equal dimensions in the same form; also two pineries, a greenhouse with a lean-to roof against a north wall, useful in summer to keep plants in, in flower, to prolong their bloom; and finally, several very excellent pits for wintering plants. The whole heated effectually with hot water.

In the greenhouse I noted a good collection of well-grown Heaths, just such plants as I had been accustomed to see at

Ealing Park, and other places round London. They are bushy, well formed, and perfect in health. Mr. Smith evidently understands how to pot and water a Heath. He is all for firm-potting — that is, when potting, he presses down his heath mould as hard as he can, and leaves space at the top to hold water enough to thoroughly wet, when necessary, the whole mass of earth in the pot. There were also two good specimens of that good, old, elegant plant the *Boronia pinnata*—one of them especially was, I verily believe, the healthiest and the best plant I ever saw. There was a new and good *Boronia serrulata*, which Mr. Smith said he had trained up himself; it was perfect in health, and dense in dark green foliage. Other plants of the same species, he said, he had not the starting-off to grow—they were a year or two older—and the difference was most remarkable. The foliage of these was yellowish and sickly, and the shoots thin and wiry. This little example shows how needful it is to commence from youth to get into health, and constant supervision to keep them so. Once out of health, they are done for. I might fill up many pages of manuscript were I to particularise every fine specimen in this large collection. Let it suffice, then, to say, that there is a great number of very excellent specimens, well grown, and kept in good health, yet they were not crowded; sufficient space was allowed to each plant to keep its leaves on every side green as long as possible.

On entering the stove house I was very much struck with a wall creeper. This stove house is like the heath house, a span-roof, with this difference, that there are no front windows. The walls (brick) are carried up to the casing of the glass roof. Now, this wall, on both sides of the house, is densely covered with the healthy, large foliage of the *Cissus discolor*. In the darkest part of the wall the foliage was healthy, and of the richest shades of colour. The lower part was close upon the hot pipes; but that excess of heat seemed not to affect the leaves in the least. Many a naked wall in our stoves and conservatories might be covered with this always-beautiful plant.

The following plants were in flower in the stoves:—

Sonerila margaritacea. This beautiful white-spotted-leaved plant would have done honour to the best exhibitor at any of the metropolitan shows. It measured two feet six inches diameter, and two feet high; and was most densely covered with its heads of beautiful pink flowers, far superior, in every way, to any plant I ever saw of this lovely species. To keep it in health, all these beautiful heads of blossom were being unmercifully picked off; the gardener observing that no other plan would keep it alive. If the least decaying matter in the shape of dead floral leaves dropped upon it, and was overlooked, it was good-bye to your plant.

I noted, also, a good plant of *Ansellia Africana* just in bloom, with five good spikes; also the better variety of *Calanthe vestita*, with four spikes; and also a twiner *Dipladenia accuminata*, had several flowers on it of the richest pink hue. *Meyenia erecta* had some flowers on it; but it is such a straggling plant, and opens so few flowers at once, that it is no favourite here, nor will be long anywhere, I fear.

There were some other plants in flower, such as Ixoras, Gardenias, &c. But I fear I am dwelling too long here; so I must request the reader to accompany me in *idea* to the front of the mansion: we get there through a shrubbery on raised banks on each side. The mansion has an imposing projecting wing at each end. The space between is filled up with an architectural conservatory, very handsome as a building, but by no means a suitable one for plants. It requires a large house or two to keep it furnished. The creepers have rushed up to the roof, and there spread out, adding still more to the heavy shade of the pillars and rafters: hence there is but a small modicum of light strikes down to the plants below. Even the Camellia sheds its buds, excepting that part of the bush next the front light. If the place were mine I would pull up all the creepers, and thereby let in more light and air. It is, as I said, a beautiful building, and must have cost a great sum; therefore there can be no objection to show the roof clear of plants.

In front of this conservatory there is a broad terrace walk with a broad low border of Yew, kept down to six inches by constant clipping. A flight of steps leads down into a geometrical flower garden of considerable extent, now, of course, in a state of rest. A fine opportunity here offers itself of furnishing these beds with evergreens during winter and early spring. There is a sufficient number of various coloured-leaved plants to render this, or any such garden, almost as showy during this dead time of the year as in the glowing months of summer. The first expense would be the last; for the plants might be so managed as to bear removal at any time of the year. All that is wanted when they are out of the flower garden is a space of ground in a reserve garden to grow them in. Just in coming away from this front of the house, I noticed a bank of earth covered exceedingly well with dwarfed Laurels.

This place is well worthy of a visit at any time of the year; but especially in May or June. It must then be very beautiful.—T. Appleby.

CHRYSANTHEMUMS.

THE VICTORIA REGIA AT DALVEY, NEAR FORRES.

Until this year I have been accustomed to grow my Chrysanthemums against a wall; and early this spring I was in a strait, as to how I should grow them for the future, for the fruit trees were fast occupying the superfices of the wall. The sorts were scions of old keepsakes from "the old house at home," in Suffolk; and it grieved me to think of parting from them entirely; so, whether the plan I hit upon be novel or no, I leave to my readers, but I like it much. I never relished Chrysanthemums in the open air so heartily before; though, as an excuse for position, I must observe, that I am compelled to economise space; therefore, measuring three feet from, and opposite to, the *boles* of the wall trees, I formed circles about two feet diameter; and on this tier of circles I planted strong suckers, in three colours, according to my taste, of what I had. I plied them well with soapsuds, water, and liquid manure, to the end of the chapter, and I staked and secured them at intervals. As soon as they began to grow well, I stopped a third of them, waited awhile, and stopped another third. The remainder were allowed to extend at pleasure. When those unstopped were grown sufficiently tall, I thrust a long stout rod into the soil, in their centres, and secured them to it. When the buds appeared prominent, I encircled the plants, perhaps three times, with shreds of matting, and so formed them pyramidally. The result was, I have had, from the top to the bottom of one fruit border, a showy rank and file of "May-day" miniature Jacks-in-the-green, averaging six feet in height, and smothered with blossom, in variety, from their base to their apex, contrasting pleasingly with their own healthy foliage for a groundwork, backed up by the green of the wall trees, and then, offering a daily kaleidescope until the leaves were fallen. They have been much admired; and a lady who saw them in their prime, about a month since, said she should send her gardener to a famous Chrysanthemum grower, near London, on purpose to choose colours, in order to grow them, in future, upon this plan.

Upon reading again and again the interesting paper of "I. H. C.," No. 476, on the *Victoria regia*, it has set me to rummage over some notes of five years ago, whence I find that I can add for its page of history a home farther north, than, perhaps, many people may be aware of.

On a fine day, in the wane of the summer of 1852, having perambulated the environs, and overlooked the "Laigh of Moray," and the "Plain of Forres," from the Nelson Monument or Tower, built upon the site of an ancient fort, upon a hill of the range of Clunie, a pleasant spot, encircled with walks and shady groves, laid out for the enjoyment of the gude folk of the picturesque town of Forres. Having, also, done justice to our luncheon; and from the windows of our hotel laughed upon a pleasing trait of human nature, that of Mr. Gordon Cumming's singling out a bit lassie from a crowd of juveniles, his handing her into a mercer's shop, and there and then presenting her with a new straw bonnet and ribbons to boot, to the bewildering surprise of the boddie, who, certainly, if one might judge from her chestnut complexion, and flaxen matted locks, had never been the fortunate possessor of such a covering before; and the pride of the half-abashed

hissie, as she bore off the prize, suspended at arm's length, and surrounded by her envious admiring sex, was a pleasant feature worth witnessing. I have, since that circumstance, ofttimes thought that there are other feelings compounded for the system of Mr. Gordon Cumming, than those which are found necessary to face a live lion. So, as I was going to say, we discussed our afternoon's programme, and wended our way some two miles on the road in the direction that leads to Shakespeare's "blasted heath;" which, by-the-by, does not appear so desolate now, as it did in the days of Macbeth, for it is, in a great measure, planted with thriving plantations of Larch and Fir trees. The spot of the meeting with the "weird sisters," is conspicuously marked by an ancient clump of the latter; though the heath on one side of the road was, at the time I crossed it, still lying a dreary waste, and likely to remain so, inasmuch as that for that part, according to my informant—the stage coachman—there were two claimants, and they had been at law about it so long, that nothing was thought to remain for either, other than the result, which, we are told, arrived for the combative cats of Kilkenny.

Crossing over the far-famed salmon fishing river, Findhorn, by a noble suspension bridge, we inquire of the "pike" keeper, "How far is't call'd to Dalvey," the seat of Captain McLeod, who kindly allowed strangers to visit his gardens. We were courteously received by the Captain, and good-naturedly attended by him to view his house and grounds; and more particularly the object of our search, namely, the *Victoria regia*, occupying a house with water-wheel circulation and appliances proper for its culture. The structure was much too small for the vigorous plant. This was further evidenced by several leafless stalks which lay upon the surface of the water up to the edge of the tank; and Capt. McLeod expressed himself as being compelled to cut off some leaves, or, otherwise, take out the sides of the house, in order to admit of their making a perfect development. There were then about a dozen leaves existing on the plant, the largest of which might measure a diameter of from four to five feet. The exotic was in handsome flower, revealing its faultless bouquet of unequalled rays. It had produced several blossoms ere our visit, at intervals of three to four days, and it promised a succession of several more. The number of sight-seers, on some days, to view this rare production, exceeded 100, we were told. And it is due to Captain McLeod, to have it recorded in the pages of The Cottage Gardener, that he was the first to decide the experiment, whether the Victoria could be cultivated successfully in the far north; and the lovers of horticulture owe a debt of thanks to him, both in that respect, and also for his liberality in granting them leave to view this loveliest of all aquatic plants in that, its comparatively early day of introduction to our native country. The gardens at Dalvey are not what may be termed extensive; but the disposition of the grounds wore a succession of surprises, amply atoning for extent. Yonder the Victoria house; there a greenhouse; here an Orchid stove, containing a numerous collection of that interesting family. Now, an avenue of *Cedrus deodara*, the finest specimens of these Conifers we ever saw. Then, a large mound of large Scotch Thistles, which, odd as it may appear, for this national emblem, the Captain said were not *Scotch*, for he procured their seeds from Jamaica. From childhood I have been an admirer of the *Carduus*, and those were extraordinary fine fellows of that ilk. Next, pheasantries, live eagles, falcons, owls, and so on. A pretty and rather extensive museum also offered its various studies and curiosities, for comparisons of the living with the dead; the modern with the antediluvian; the pictorial with their living floral prototypes; stuffed fish, fowls, and ugly hybrids, &c.

The mansion itself is charmingly situated on an eminence, with the prospect at command. A perpetual refreshing sound of water echoes from a river as it flows through its rocky bed, amongst the encircling trees, completing a happy picture, and fulfilling for us some two hours of lively enjoyment.—Upwards and Onwards.

GROWING SPECIMEN CHRYSANTHEMUMS.

As one of the many that benefit from the writings of Mr. Beaton, I beg to return him thanks for his beneficial and practical hint on that popular flower, the Chrysanthemum. I am a very old grower of them, and fancy I know a little about them. Still, when Mr. Beaton writes on them, I always pick up something fresh and interesting. I do not recollect that he said anything about the time of starting the fine specimen plants he has witnessed at the different shows; if not, allow me to say they are propagated in November, and taken from suckers or cuttings, and kept in cold frames all the winter, repotted early in the spring, and stopped. This mode of treatment—repotting and stopping—is kept up till the 1st of August, when the stopping is discontinued. Supplying plenty of liquid manure after well watering with plain water; pegging down, and tying out; keeping the centre open (as it will always fill up when wanted).

The large varieties, for cut blooms, are closely watched, so that they do not throw out laterals. The moment they show themselves they are taken out; and, till the flower-buds show, they are then thinned out to one bud on a branch, choosing the most promising ones—say four branches to a plant; these are what are grown for the show-board.

Large varieties for pot plants are also thinned to a certain extent, according to the number of branches on them. These, like the Pompones, will require three or four times stopping-up to August, and well tying-out, and to be plunged in a shady part of the garden in summer, with lots of water, turning the pots round once or twice a week to prevent the roots from getting out at the bottom. In October they are housed, to protect them from frosty nights. Some persons cover them with canvass or calico. In July and August, water with cow-dung liquid manure, as the other is too hot in summer; but guano, slops of the house and dung of fowls, and rabbits, must only be used in May, June, September, and October.—A Practical Gardener.

THE STEWARTON HIVE.

The letter from Mr. R. Eaglesham, in your last publication, requires a few words from me, as the writer of the communication under the signature "T.," which has occasioned it. The only "excuse" I have to plead, is a difference of opinion with your correspondent, on a matter entirely of principle; whose subsequent remarks have not, as I think, much altered our relative positions. Whether the observations addressed by me on the 24th November, are justly to be chargeable with "an absence of faith and good feeling," your readers are able to decide. I am not conscious of any such intention, for I have no desire to be of the number of those who merely pelt each other with hard words; and who, I have been glad to see, have on more than one occasion, received a well-merited castigation from you, Mr. Editor. The quotation I gave from Mr. R. Golding's book, is, I think, founded on a correct principle: it is altogether general in its application; and as such I gave it. With regard to my "total lack of acquaintance with bee matters," I can hardly think that a long course of observation, commenced more than half a century ago, on subjects connected with the apiary, have been entirely without some useful end. The public, however, have the means of forming their own judgment, as my name has been before them for many years; though the hand of time now admonishes me that my day of usefulness is drawing to a close. I am not sorry that an opportunity has been given me of throwing off an anonymous character—not a fair one to a known opponent, and therefore subscribe myself,—H. Taylor, *Author of the "Bee-keepers' Manual."*

Gigantic Pears.—In the window of Messrs. Clarke and Co., the well-known seedsmen and florists of the Borough, are now exhibited, and are objects of great attraction to passers-by, two remarkably fine Pears, which are well deserving the above appellation. Some idea may be formed of their size when it is stated that the larger of the two weighs 2 lbs. 14ozs. They are considered the finest specimens of this fruit ever seen in this country; and were grown on the farm of Mr. Joseph White, of the Borough, Little Britain, Gloucestershire.

AZALEA RAMENTACEA.

RECEIVED from Mr. Fortune, May 8, 1846, and said to be from Hong Kong.

This has something the aspect of the common white Chinese Azalea, with smaller flowers; but it appears to be in reality a very distinct species. The leaves are often nearly round, and at the most are only oblong. The flowers have but five stamens; the sepals are very short, and bordered with long ramentaceous hairs at the edge, although they are naked on the back. There are no glands or setæ on either calyx or flower-stalks.

It is a dwarf evergreen shrub, requiring the same kind of treatment as other species of Chinese Azalea, and easily increased by cuttings in the usual way. It is very pretty and distinct, and deserves general cultivation.—(*Horticultural Society's Journal.*)

Azalea ramentacea.

CULTURE OF OLD GERANIUMS.

I SEE in the June number, a (to me) very amusing article by Mr. Beaton, with which I concur, on the utility of preserving aged Geraniums for bedding and other decorative purposes. I have had, for a number of years, a collection of aged Geraniums under my care; and the following observations about them, may be accepted as the results of considerable experience.

The Geraniums referred to in Mr. Beaton's communication are in childhood compared to those under my care; and Mr. Beaton, perhaps, may be a little sceptical when I inform him, that the aged pets referred to, were, in all probability, grown here before Mr. B. saw Shrubland Park; and, certainly, long before Mr. Kidd (the gentleman referred to in Mr. B.'s communication), and your humble servant, were cultivators in Suffolk.

It appears, that there were fewer *cheils* among us taking notes thirty years ago, than at present; consequently, I am unable to say precisely how old the plants are, but certainly not less than a quarter of a century; and more probably they are thirty years of age. Judging from their present satisfactory appearance, they are likely, barring accidents, to flourish for another quarter of a century; and to continue subjects for the admiration of all who have seen, or yet may see them.

There are twelve of them from eight to ten feet high, all trained pyramidal fashion; but only four of them are quarter centenarians. The others are from twelve to sixteen years old; and, with one or two exceptions, are the legitimate *Horseshoe* variety. They are turned out of their pots, and planted in the flower garden in May—in strange company too—growing side by side with the rarer *Coniferæ*, with which they have manfully contended for ascendancy for some years; but now they have to succumb to their naturally more gigantic brethren. The plants having been so frequently planted out, the roots are one mass of fibres; and by being carefully potted, they flower in profusion the whole winter; indeed, this place has not been without cut Geraniums for many years.

I have a considerable number of plants, I could not say how many (although I should detect the loss of one), from four to six feet high, of various kinds, and of a less aspiring nature—all from six to twelve years old—which improve and flower better the older they become; which corroborates, if proof were wanting, Mr. B.'s theory and practice.

I have also grown twenty specimens of *Tom Thumb* Geranium, for thirteen years, in rustic boxes, for the purpose of decorating the flower garden in summer. They are annually taken out of their boxes in October, and potted into ten-inch pots, for keeping through the winter; which operation having been so often performed, the plants might, without injury to the roots, at least, be pitched over Arthur's Seat. The strongest shoots are cut-in a little after potting, to reduce the plants to two feet or so in diameter. This annual cutting-in is necessary, to keep the plants in proportion to their boxes; as also to prevent a summersault occasionally, while in their summer quarters.

I subjoin a description of the boxes referred to, for the information of your numerous amateur readers, whose tastes may lead them to do a little in this line. Any handy gardener or forester could make them; the first ten of them being made by myself, with the assistance of the young men under me. A plain one-inch deal box, first; one foot two inches wide at top (inside measure), ten inches wide at bottom (outside measure), nine inches deep (inside measure). Do not forget a drainage aperture in the bottom of one-inch diameter. This done, give a coat of coal tar (applied hot), outside and in; and when sufficiently dry, procure slabs (outside pieces of sawed timber with the bark on,) of Spruce, Larch or Scotch Fir; either will do, uniformly four inches wide, and half-inch thick; proceed to nail on the slabs diagonally, thus, *///*; which being finished, saw off any projecting ends of the slabs, level with the top and bottom. A cope of the same material and width is now nailed on, flush with the inner edge of the box, which, from the cope being four inches wide, allows the coping to project about two inches. Four feet are now nailed on the bottom, also of wood, with the bark on, three inches long, and about two inches diameter; these, with the coping, give a unique character and finish to the whole.

If I have not been sufficiently intelligible in describing the method of making the above-mentioned boxes, any one interested may see them here (otherwise, I shall be most happy to reply to any communication through the pages of THE COTTAGE GARDENER). Only, I beg that ladies and gentlemen honouring us with a visit, may not raise expectation too high; for I do assure them, that the boxes are not gold boxes, or silver boxes either, but plain sober-looking rustics. —WM. BAXTER, *Riccarton.*

SABBATIA CAMPESTRIS—SEEDING OF LOBELIA SPECIOSA.

WILL you kindly permit me to state, with reference to your notices of *Sabbatia campestris*, and *Salvia candelabrum*, at page 120 of your November part, that the merit of the introduction of these plants to this country, is due to others,

and not to me. I believe the late Mr. Carter, of Holborn, introduced, or rather re-introduced, the *Sabbatia*, in 1853; for it had been previously cultivated here, if I be not mistaken. My part was limited to sending the plants to the Kew Gardens.

I have an impression that Mr. Beaton, some time since, expressed strong doubts, that the *Lobelia speciosa* would not reproduce itself by seed. It may, therefore, interest your readers to learn, that not only does the variety in question ripen seed as freely as the older ones (in favourable conditions), but also comes true from the seed. Having raised several thousand seedlings, I am in a position to speak positively as to the first generations. I presume, therefore, there can be little doubt that the future ones will possess the characteristics of the original.—W. Thompson, *Ipswich.*

NUTTALLIA CERASIFORMIS.

Received from Mr. Hartweg, in January, 1848, from California, said to be a deciduous shrub, two feet high, from the woods near Monterey.

A shrub, with a very thin, half-transparent, smooth, deciduous foliage. The leaves are obovate-lanceolate, or oblong, perfectly smooth, pale-green, rather glaucous beneath. From the base of the young shoots, opposite one of the earliest leaves, springs a nodding raceme of greenish-white flowers, furnished with broad, reflexed, thin, very pale-green bracts. There are five petals, which soon fall off, and fifteen stamens inserted on the calyx in a double row. The aspect of the plant is something that of a bird-cherry; but its fruit is said to consist of from one to five leathery drupes, which finally dry up and split.

A hardy, dwarf, neat-looking shrub; increased by suckers or seeds, and growing freely in any good garden-soil. It flowers before the leaves are produced, in February and March. —(*Horticultural Society's Journal.*)

JUXTAPOSITION OF COLOURS.

Perhaps the following hints respecting the juxtaposition of colours, and the complementaries, may be useful to your correspondent "W. J. W.," whose query appeared in a late number of The Cottage Gardener.

White is the normal condition of light. *Black* is the absence of light. Neither white nor black are, strictly speaking, colours. *Colour* implies that some portion of the constituent parts of white have been abstracted from it. The colour of the sea is a good illustration of this fact. Owing to the peculiar construction of the spectrum (which is too long a subject to enter upon here), its first four component parts viz., violet, indigo, blue, green, and a portion of the fifth, or yellow, cannot penetrate the sea water; and are, consequently, reflected. If they *could* penetrate, the sea would appear white: as it is, they do not, and the colour of the sea is, consequently, made up of a mixture of these colours, viz. a greenish blue. The remaining portion of the spectrum—a portion of the yellow, the orange, and the red—does penetrate, and colours the water below; and the diver, descending into the depths of the sea, finds himself surrounded by a red water, slightly orange. Many other instances might be mentioned confirming this fact—that colour is, so to speak, a damaged white, or white deprived of some of its constituent parts.

The constituent parts of white are red, blue, and yellow in certain fixed proportions; and these are called the *primary* colours. And a mixture of any two of these, such as red and blue=purple, or blue and yellow=green, &c., forms what are called the *secondary* colours. Again, a third series of infinite variety is formed by a further admixture of the primaries with the secondaries; and in this way every known variety of colour is produced.

Now, the complementary colours are nothing more than those which any particular colour may want to make up its *complement;* in other words, to make white light. Thus, the complementaries of red are blue and yellow=green; of yellow, red and blue=purple, &c.

In the case of the secondaries, if they are pure, and in the right proportions, only one colour is complementary. For instance, green, if of a certain hue, wants only red mixed with it to make white; and purple, likewise, only yellow: but rose colour, which is not pure red, nor pure purple, but red with a *small* admixture of blue, has, for its complementary, yellow mixed with just so much blue as the original rose wanted to make it pure purple; therefore, the complementary colour of rose is pale yellowish green.

To illustrate this by examples. The complementary colour of *Shrubland rose* Petunia is pale green—the colour of its foliage; of *Cerise unique* Geranium, darker green; of a pure red Verbena, a pure green, or equal quantities of yellow and blue; of *Punch* Geranium, which is scarlet, (*i.e.*, pure red, with a small admixture of yellow), a blue green, or a green with more blue than yellow in it—the exact colour of its foliage.

The important fact on which hinges the correct juxtaposition of colours is this:—the eye, after viewing any object or colour, does not immediately lose the impression, but retains it for a short interval, even after it has been turned to another object or colour. And the consequence of this fact is, that the eye receives either a pleasant or an unpleasant impression on looking at different colours in succession, according as those colours fulfil certain conditions or not. For instance: when the eye has rested for some time on bright red, and is then turned to its complementary—green, it experiences a pleasurable sensation, finding relief in seeing a colour in which no red exists; and the hue of each colour is heightened from the contrast.

Now, why should this be the case? it may be asked. Why should not the eye feel equal pleasure from seeing *blue* after the red? and why should not the hue of each be heightened in the same manner as before? The only explanation which can be given of this mysterious fact is, that *the eye is naturally disposed to seek white*, which is the normal condition of light; in this it finds rest—that colours, strictly so called, *excite* the eye. They are, of course, pleasurable, like other excitement, for a time; but they keep the eye in a state of excitement. It is not satisfied, and cannot repose, till either it is turned to

white itself, or feels such a sensation from the complementaries, as, taken with that of the particular colour seen, makes up the complete sensation caused by white light. Let the reader watch himself the next time he comes within sight of a "blaze of colour," either in a garden, or anywhere else; and he will be surprised to find how constantly his eye turns to some white bed or surface, as the case may be, within view, or to the sky itself, or, in short, to anything that will give it relief from the excitement caused by the colours, and restore its tone. Yellow, seen by itself, does not satisfy the eye; but place the complementary purple by the side of it, and the sensation is then pleasurable in the extreme. What is more beautiful than pure yellow Calceolarias by the side of pure purple Petunias? And the same is the case with all contrasts of complementary colours.

Again, the reverse effect is produced by bringing colours together which are not complementary. Let the eye rest awhile on the flowers of *Lobelia ramosoides*: they are beautiful in themselves, it is true, but the eye seeks for something more; it requires orange, say Calceolarias, in juxtaposition. Place a purple Verbena by the side of these Lobelias, and the eye immediately turns away in disgust; and why? Because the purple repeats the blue of the Lobelia, and so does not relieve the eye; and the red in the purple is only half of the complementary colour which is wanting; and instead of each colour heightening, the one lowers the effect of the other.

Of this error there is no instance at once so common and so glaring (as Mr. Beaton has remarked at the Crystal Palace), as the juxtaposition of orange Calceolarias and scarlet Geraniums. Here each has an admixture of the other's colour; and, consequently, instead of heightening each other's effect—which is the great object and end of all juxtapositions—they lower it amazingly. The Geranium makes its neighbour appear less orange, owing to the vivid red with which the eye has been saturated, deteriorating the small portion of the same colour in the orange. And again, the orange lowers the scarlet of the Geranium, owing to its own vivid yellow overpowering the small quantity of yellow comprised in the scarlet.

It is obvious that if these laws of the juxtaposition of colours be rigidly adhered to, (and I scarcely need say that no garden can be planted in good taste unless they are), it becomes a matter of no small difficulty to plant a garden quite successfully. Perhaps most people have already found this to be the case. And the difficulty would be immensely increased were it not for the circumstances that the foliage of the plants, which Nature almost always harmonises in colour with the flowers, and the green grass which usually surrounds them, prevent any very inharmonious contrasts. I may observe that the green of the grass acts in two ways. With certain colours, such as all shades of reds, pinks, &c., it forms a complementary, or nearly so; and with all other colours which are *light*, such as yellow and orange Calceolarias, very pale lavender, and the whites, it produces its favourable effect by forming a *dark ground*. I omitted to mention before that both white and black heighten the effect of all colours by contrast when in juxtaposition. The only colours which are weakened by the green grass are dark ones, such as blues and purples; and this for *two* reasons, which the careful reader cannot fail to see. Hence it follows, that blues and purples are the two colours which most of all require attention in planting a garden, so as to have their complementaries in juxtaposition: they should be near white flowers, or those of some orange tint.

The length of this article warns me to stop; otherwise the subject is an inexhaustible one, and would occupy a volume. But I think I have said enough to form a groundwork for beginners to work upon.—H. C. K., *Rectory, Hereford.*

P.S.—Perhaps I ought to explain that, when I state that "the eye is naturally disposed to seek white light," and finds "relief" in turning to it, I do not mean white brilliantly lighted up, which, of course, is dazzling in the extreme; but, simply, white which is *not dazzling*. The tones of whites vary from a cool grey, which affords the greatest amount of repose to the eye, to the brilliant white of the sun itself at noon.

[We shall be very glad to hear further from you.—Ed. C. G.]

NEW BOOKS.

A Treatise on the Potato Disease.*—This is an extraordinarily confused pamphlet of sixty pages; the first third of which are occupied with an imperfect history of the Potato, and of the distress occasioned in Ireland by its failure. As to the disease, the author's opinion, and the value of that opinion, may be gathered from this sentence—"Ammonia is a propagator and conductor, in one way or another, of all diseases incidental to vegetable, animal, or human life." As a remedy, he recommends sulphate of lime, caustic lime, "or any other article," "which will neutralize free ammonia or evolve it." No one but the author would say that to neutralize and to evolve are the same. Let no one waste their money upon such a tissue of ignorance, and irrelevant rubbish.

The Cultivation of the Mushroom.†—This is a very different production; and is full, from page to page, of sound, practice-founded information relative to Mushroom culture. Here is a specimen:—

"*Question.* In what condition should the manure be?

"*Answer.* I care not how the dung is for the under part of the bed, provided there are about six inches of droppings, and unheated dung for the surface, all quite dry; if fresh dung be trodden very hard, it stops over-heating, and retains the heat longer, saving all the ammonia and other salts.

"*Q.* What should the thickness of the dung be?

"*A.* All my beds are from one foot to one foot six inches deep.

"*Q.* How do you let out the heat?

"*A.* By making holes, six inches deep, and one foot apart, in regular rows; and when the heat is reduced to 80°, these holes are filled to within three inches of the surface with droppings; then the spawn is inserted in each hole.

"*Q.* What should be the exact temperature of a Mushroom bed?

"*A.* September heat, or about 60° to 70°, on the bed's surface. This heat can always be maintained by hay and mats, or otherwise.

"*Q.* How far will a bushel of spawn go?

"*A.* About one hundred square feet.

"*Q.* Should the bed be moulded at once?

"*A.* Not when made up; but immediately when spawned.

"*Q.* What is the right soil? should it be dry or wet?

"*A.* A soft, soapy, loamy, yellow, sandy soil is always best; but rich, light, dark-sandy soil does well. Never use clay, or chalky, or limy soil. It matters not much whether the soil be dry or wet, as it must be made wet to get it very solid when finished.

"*Q.* What thickness ought the mould to be when put on to the bed?

"*A.* Four inches, if a loamy soil; and when this has been trodden down and beaten with the back of the spade, it will then be about two inches thick; if light, sandy mould, not less than five inches.

"*Q.* When should a bed be first watered?

"*A.* From six to eight weeks after formation; but that will depend upon the dryness of the dung when made up. Mind, as before said, to guard against too much heat and moisture. Soft water should be used, never pump water; in winter let the chill be taken off it.

"*Q.* How much water should be given at a time, and how often?

"*A.* Very difficult to say; but not less than half a gallon to a square yard; liquid manure water, half and half.

"Watering I may add, depends much on the situation of the bed, as well as the state of the weather."

The Rose.‡—This is well worth the sixpence charged for it. It contains the experience of a Rose cultivator, and is abounding in useful information. There is only one omission which strikes us—nothing is said about growing Roses on their own roots. Now, we believe that no Rose will grow so well when budded, either upon a Manetti or Dog-rose stock, as it would if supported by its own roots.

* *A Treatise on the Potato Disease*, &c. By Richard Caless, London.

† *A Treatise on the Cultivation of the Mushroom.* By James Cuthill, London.

‡ *Cultural Directions for the Rose*, a calendar of operations, &c., By John Cranston, London.

QUERIES AND ANSWERS.

A BUNDLE OF QUERIES.

Fuchsia Dominiana.—This plant is a little uncertain. We have seen such plants as you speak of bloom pretty freely; but, generally, they do best the following year. One of the finest plants we have seen, was struck in February, planted out of doors in June, and raised carefully, and potted in the beginning of October. A full exposure to the sun, and the slight check it received, most likely tended to the production of numerous flowers in winter and spring.

Barkeria spectabilis.—Log mildewed, and covered with fungus. Sulphur would arrest the mildew, and strong lime water would arrest the fungus on the log; but it would hardly be safe to let it touch the plant much. In order to get the best information, we delayed answering for a few days, in order to get the opinion of a most successful Orchid grower, a friend of ours; and this is his answer:—"I do not know anything that could be used safely for killing the fungus on the log; though powdered sulphur would destroy the mildew. I fear 'B. R.' must have his plant on a wrong sort of wood. All mine are grown on Acacia, Pear, Plum, or Cork, and I have never seen fungus or mildew; but I prefer Cork when I can obtain it. Copper wire and copper nails should also always be used. If 'B. R.' would put his plant at once on Cork, and give a fair portion of air, he would, most likely, see no more mildew or fungus. The *Barkeria spectabilis* does not flower, generally, before June or July."

Time of Orchids Blooming.—No dictionary can do more than give generalities in this respect. Gardeners can make many plants bloom just when they like, by retarding and accelerating. For instance, we might mention April and May as the chief time for Cinerarias blooming; but it is no uncommon thing to see them in bloom all the winter, from the end of October. Then, as to florist and fancy Pelargoniums, no gardening work would err greatly in specifying June as the chief period for their flowering, though they might be at their best in May; and successions equally fine far on into the autumn. The same as respects our correspondent's Odontoglossum. The time of flowering will greatly depend on circumstances; and once it blooms at a certain period, it will soon become somewhat natural for that plant to bloom at that period. In relation to this, the friend above referred to, says—"Orchids, like other things, may vary considerably in their time of blooming. For instance, I have two large plants of *Cattleya crispa;* the one plant flowers in July, and the other blooms in September. The two plants were one originally, and were merely divided to make two specimens. One of these plants I retarded in growth some years ago, in order that it might come in as a specimen for a flower show at Liverpool, in September, which it did, and thus answered my purpose. This plant has always continued to bloom at the same period ever since, though both plants receive similar treatment. I have three plants of *Odontoglossum grande.* One of these is in bloom now; and the others, judging from the past, will come into bloom, in succession, up to March, or later: and if they receive the general treatment, they will continue to bloom thus in succession for years to come."

Psidium Cattleianum.—"What are its culture and natural history?" This plant is nearly allied to the Myrtle, and is a native of China. We have never seen it do much good out of doors. The finest fruit we have seen was from plants grown in boxes, and planted out against the back wall of a vinery; the vinery being used as a cool greenhouse in winter, and no forcing adopted in it until March, or even later. It thrived, and was very fertile under the same treatment as suited early-flowering Camellias. The extra heat during the summer gave a stimulus to the growth and ripening of the wood, and also to the ripening of the fruit. The comparatively cool temperature in winter gave the plant a rest; but not so much so as to injure the plant, or render it deciduous. Fresh fibry loam, with a little peat, and surfaced with old cowdung in spring, answered well.

Tomato.—"Some account of its natural history, culture, and the various modes in which it may be cooked and preserved, for A DERBYSHIRE SUBSCRIBER." The plant inits various varieties, as to size and colour, is the *Lycopersicum esculentum,* a native of South America, nearly allied to the *Solanum,* or Potato group, but even more tender than that valuable esculent. Treated as a tropical plant, or grown in an intermediate house, we have seen it several years old, and assuming almost a shrub form. In general management, it is treated as a rather tender annual, the seeds being sown in March or April; and the seedlings grow strongly until the beginning of June, being supplied with pots singly. The plants are then generally turned out against a wall or paling with a south or west aspect, and placed in soil moderately rich. Success in all cases greatly depends on picking out the point of the shoot immediately before where the bunch shows itself, and keeping the plant rather bare of luxuriant foliage at all times. By great attention to these matters Mr. Kidd, of Stud House, Hampton Court, is very successful in cultivating it on an open border. He sows late—about the middle to the end of April; pricks off singly into pots, or into a slight hotbed, as one might do early Celery; hardens them off by degrees; plants out into the well-dug border in June about three feet apart; supports each plant with a little stick; picks out the point with the thumb and finger as soon as the first bloom shows. This will cause side-shoots to come; three or four of these are selected, and, when long enough, are placed along the ground like Cucumber bines; all the others being nipped out with the finger. These secondary shoots are stopped beyond the fruit like the first; and this pinching system, being persevered in to keep the plants thin, large crops of fine ripened fruit are thus produced. We do not know a great deal of the cooking part of the Tomato; we would rather leave that to our Soyers, as every man is most at home in his own province. On the Continent, and in America, visitors have informed us that large quantities of full-grown green Tomatoes are used as salads separately, and mixed with Cucumbers; that great quantities of the young fruit are pickled and preserved, just as we pickle Gherkins. We have made a very nice sauce in the following manner:—Put the ripe fruit for an hour in an earthen vessel into an oven, not hot enough to make them boil, but warm enough to cause the fruit to fall, and become soft; then pour off the thin liquid; squeeze the pulp through a cullender, keeping out the seeds; and to every gallon of this juice add a dozen fair-sized button Onions, rather more Shallots, less of Garlic, or of Cayenne pepper, a little allspice and cloves, and salt to flavour. Simmer gently over a slow fire for an hour, stirring the mixture well all the time; and, as it gets cool, place in wide-mouthed bottles; cork and secure with bladder. There are many superior modes; and among these you will find directions for making *Tomato Sauce; Tomato Catsup, Tomato Soup, Tomato Paste,* and *Stewed Tomatoes,* at page 414, in No. 362, September 4, 1855; and these are but a sample of the many variations in the recipes as to keeping this fruit. The simplest mode is just to part with some of the mere watery fluid, boil the remainder sufficiently, and help to keep, and flavour to taste with such condiments as pepper, salt, allspice, cloves, &c.

Epiphyllum truncatum violaceum.—"A BEGINNER" complains that this does not open well in a cool greenhouse. If the weather had been sunny during the day, and the night temperature averaging 45°, the flowers would have opened pretty well, and the plant tolerably healthy. It would thrive better in a temperature of from 55° to 60°.

Cissus discolor.—"A fine plant of this bloomed this year. Is that common? My house averages from 50° to 60°, but this plant looks miserable, and has lost most of its leaves. What is the reason?" The flowers of this beautiful-leaved plant are nothing more attractive than those of the common Nettle. Your temperature is too low to keep the leaves on the plant. If you keep it rather dry at that temperature, you may succeed in keeping the most of the main shoots alive. To keep the leaves healthy during the winter, the temperature should range from 60° to 70°. In summer, provided it has shade and moisture, it will never complain, though the temperature should range from 70° to 90°. The finest foliage we ever saw on this plant, was at Luton Hoo. Mr. Fraser had a plant trained on the glass division between a stove and a greenhouse; but there the leaves, though good, were nothing wonderful. Round the ends of that stove, and along its front, was a broad shelf for plants; a series of hot-water pipes for heating, running between the shelf and the ground; a path-

way separating the shelf from the central bed for the plants; and the shelf being some three feet from the level of the path. By means of three or four wires strained longitudinally at equal distances between the shelf and the ground, so many shoots from the same plant of Cissus as covered the end division, were trained along these wires, each from thirty feet and upwards in length; and thus these shoots, being so near the pipes, and having but little, if any, direct sunlight, were clothed with foliage, which for size and beauty we have never seen equalled. The shoots thus trained, presented a beautiful fence, wholly concealing the pipes beyond them, if you should choose to look down for them.

Salvia splendens.—"I took great pains with this plant; struck cuttings in April; potted them off when struck; stopped them to make bushy; kept potting on and on to make a large specimen; and yet, by the time the plant was in bloom, the most of the leaves had fallen, and the rest were covered with red spider. What was the reason?" Neglect of watering at times; neglect of a free use of the syringe. The plant feeds like a glutton. A hot sun beating against the pot, a drying of the roots in hot weather, will produce the results of which you complain. The easiest and the best way to manage such specimens is the following (and in several establishments we have seen beautiful plants full of flower well supplied with nice healthy green foliage so managed):—Strike about April; pot off when struck; top when rooting freely; pot again if necessary; by the second week in June turn out into a rather rich border; water well at the root; and repeat when necessary; syringe over head freely in an afternoon; and if there be some sulphur water in the liquid, and even clear soot water, all the better. Train out the plant with little sticks as necessary, so that all the main shoots may have room. By the middle of September ease the plants on one side with a fork, and water them. In a few days do the same with the other side; and by the first week in October lift them carefully, and transfer them to larger pots in loam and leaf mould. Water, syringe, and, if possible, plunge the pot in a decayed hotbed where there is still a little heat. Shade, syringe; and, in a week or so, the roots will have recovered their equilibrium: and in a fortnight or so you will have plants whose foliage is as rich as the flowers are gay.

PUTTYING BETWEEN THE LAPS OF GREENHOUSE GLASS.

"Would The Cottage Gardener inform a 'Constant Reader,' if it be considered better to putty between the laps of a greenhouse? Her's is unputtied; and both rain and soot beat in upon the plants."

[In your case, it would be best to putty the laps. In general, where the slope of the roof is rather steep, so that the water passes off freely, and the lap is from one-eighth to one-quarter of an inch wide, we prefer the laps to be open.]

FEEDING A WEAK HIVE.

"On weighing my box of bees, I find combs and all (after deducting the weight of the box itself), weigh barely ten pounds. They only, from first to last, this season, filled a ten-inch cube box; and I suppose I took too much of this small quantity away. Can you tell me how I am to feed them, *i.e.*, whether by continued supplies at intervals during the winter, or by a large quantity? And if so, how much, once for all? Is it too late to add another stock to the hive, so as to strengthen it?"—Tyro.

[You ought to have ascertained the condition of your stock in September. It is far too late now to attempt a union with another family. Any bee author, at all practically acquainted with the subject, would have directed you properly. Your stock could never have been a thriving one, or it would have made a little provision for the future. Of the little which was collected, you have improvidently appropriated to yourself the greater part, without first making yourself acquainted with the actual state of matters. It is never advisable to administer food to bees in winter, as a general rule, and still less to give artificial substitutes for honey; but, perhaps, under the circumstances you had better watch the opportunities of fine days in the early spring, and endeavour to place supplies within the hive, without exposing the family to the influence of cold and damp. You must not, however, be very much disappointed, if all your efforts should be ineffectual in restoring your stock to the needful state of strength and health.]

TO CORRESPONDENTS.

Flowers for a Grave. (*J. Green*).—You will find this question answered in No. 424, p. 98.

Removing Phloxes. (*W. M. W.*).—March is the time for removing them. See what Mr. Appleby said about soil for Phloxes last week. We shall be glad of the list, with particulars as to colour, height, &c.

Insects (*W. Smith*).—They are not Aphides, but a species of Scale, (*Coccus*). Spirit of turpentine, or a paint made of soft soap, glue, and clay, will kill them.

Name of Pear. (*J. B.*).—It is the *Beurré diel*: and if you consider the specimen sent only middle-sized, the large Pears must be very fine.

Names of Plants (*E. C. T.*)—It is *Sericographis Ghiesbreghtiana*. The insect you complain of will be killed by dipping the plants into water heated to 150°, or by sponging them gently with water of that temperature: it will not hurt the plants. (*H. Coventry*).—Your Fern is *Polypodium alpestre*. (*W. Gater, Teignmouth*).—We cannot tell from your specimen; send us a root of it.

Span-roofed Greenhouse (*A. D.*).—We have no doubt but that the house will answer; but we would, for the sake of strength, prefer that the four corners should be posts, five or six inches square. We can hardly answer as to the brickwork, so much depends on the circumstances. But, supposing that a rod would swallow up 4500 bricks; and these would cost, when laid out of the cart, 30*s.* per thousand, or more; this would mount up nearly to 7*l.*, without mortar, labour, &c. The best mode is to decide on the thickness of the wall; and then, for a certain space, you can easily see the bricks that would be necessary, and contract accordingly. Circumstances are so different, that statistics are of little use.

Hexacentris Mysorensis; Tecoma Velutina. (*An Old Subscriber*).—We cannot assign the cause of the *Hexacentris* dying at the points. The insects in the second case would cripple the plant, but would hardly be sufficient to kill it. They should be washed off. It strikes us the house has not been warm enough. The *Tecoma velutina* we do not know. We should hardly expect flowers next season. We would cut back the two shoots that are now proceeding from the main stem at the height of eight feet, in spring; and take two or more shoots from the buds next summer, giving them every encouragement in the way of growth and sunshine. Towards autumn refrain from watering, that the shoots may be well ripened. Remove the points in winter; and every well-ripened bud will be likely the year following to produce a short shoot with flowers. These afterwards may be spurred, or long shoots grown at pleasure. If we hear of a better mode, we will be sure to chronicle it.

Cactus Epiphyllum Truncatum. (*The Clodhopper*).—This plant flowers most frequently in November and December; though often it blooms twice in the year. You may graft at any time; but spring we consider the best. No grafting is easier. Scrape off a little of the bark; or, rather, cut off a little of the scion, so as to give it a wedge-like shape; insert it in a cleft of the stock; stick a wooden pin through; and tie loosely with matting.

Protecting Ranunculuses (*South Hall*).—You do not say what kind of Ranunculuses you are cultivating. Are they the *Turban* varieties? or are they the florists' named sorts? The *Turbans* are nearly, if not quite, hardy; and a slight protection of Moss or Fern placed about them will be sufficient. But if they are the florists' (or named) sorts—the planting season of which is February or March—then you must arch the bed over with hoops, and cover them with mats or canvass whenever there is the least appearance of severe frost. Should that weather continue, you must double, or even treble, the thickness of your covering. Only take care to remove the coverings every mild day. Too close and long-continued shelters are almost as injurious as no coverings at all. On the surface of the soil, under this covering, place around the plants some green Moss. It acts as a non-conductor of cold, and shelters the plants very much. Of course, early in spring let all covers be removed; and the ground between the rows well trodden down to make it firm and close—a great point in the culture of these flowers.

Gastronema Clavatum (*W. J. W.*)—Instead of the beautiful *Gastronema clavatum* from the Cape of Good Hope, you received a South American bulb, which represents the white Crocus in Peru, Buenos Ayres, and Calcutta, namely, the *Amaryllis candida* of the "Botanical Register," the *Zephyranthes candida* of the "Botanical Magazine," and the *Argyropsis candida* of some botanists; standing provisionally between *Zephyranthes* and *Cooperia*. It is as hardy as the Scotch Crocus; and flowers "off and on," for five months in the year in the open border. Your greenhouse treatment forced it to make more bulbs, and kept it from flowering these many years: but plant it out now, as we have done the bulb you sent, and it will soon return to its free habit of blooming. The flower of *Gastronema clavatum* is not much bigger than this, but is wider in the mouth, as white in the ground colour, with six broad crimson bands up from the throat to the edge, at equal distances. If you could get this *Gastronema* and *Cyrtanthus striatus*, which has the bands of yellow on a reddish ground, and a greenish mouth to the tube, the two would give the prettiest seedlings you ever saw.

Esperione Grape (*An Amateur growing Grapes on Mr. Hoare's plan*).—Many thanks. Mr. Beaton would be obliged by your address; and he would call on you, if spared, next September, to see your crops.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

December 30th and 31st. Burnley and East Lancashire. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

January 1st, 1858. Paisley. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

January 4th, 1858. Kirkcaldy. Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

January 9th, 11th, 12th and 13th, 1858. Crystal Palace. *Sec.*, Mr. W. Houghton. Entries close December 12th.

January 13th and 14th, 1858. Dublin. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

January 20th, 21st and 22nd, 1858. Nottingham Central. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

January 20th, 21st, and 22nd. Liverpool. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs. Entries close Dec. 19th.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

February 10th and 11th. Ulverstone. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

BIRMINGHAM POULTRY SHOW STATISTICS.

The entries in the Poultry Exhibition, exclusive of Pigeons, as our readers have been informed, amounted in the aggregate to 1,300, against 1,210 last year. Of this number, seventeen pens were disqualified from competing, through not having arrived at the time specified in the schedule. In the four days that the Hall has been open to the public, 214 pens were sold for 816*l.* In 1856, 250 pens were disposed of, and produced 999*l.* 0*s.* 6*d.* The sums received on each day last week were —Monday, 430*l.* 14*s.* 6*d.*; Tuesday, 163*l.* 10*s.*; Wednesday, 32*l.* 3*s.* 6*d.*; and Thursday, 189*l.* 12*s.* We subjoin a statement of the entries in each class, and the extent of the sales, premising that all the pens not allotted to single cocks or to hens and pullets, which are distinguished from the rest, contained a cock and three hens. Each of the pens in the newly-opened classes for hens or pullets, contained three birds. Golden-pencilled Hamburghs:—Exceeding one year old, 10 entries; sales 2. Chickens, 45 entries; sales, 6. Single Cocks, 20; 1 sold. Golden-spangled Hamburghs:—Exceeding one year old, 11 entries; no sales. Chickens, 34 entries; no sales. Single Cocks, 14; sales, 5. Silver-pencilled Hamburghs:—Exceeding one year old, 7 entries; 1 sale. Chickens, 26 entries, 3 sales. Single Cocks, 8; 2 sales. Silver-spangled Hamburghs:—Exceeding one year old, 8 entries; no sales. Chickens, 33; 4 sales. Single Cocks, 6; 2 sales. Black Polish:—Exceeding one year old, 6 entries; 1 sale. Chickens, 8 entries; 1 sale. Golden Polish:—Exceeding one year old, 7 entries; 1 sale. Chickens, 8 entries; no sale. Silver Polish:—Exceeding one year old, 14 entries; 1 sale. Chickens, 14 entries; 1 sale. Polish of any other variety:—Exceeding one year old, 3 entries; no sale. Chickens, 2 entries; 1 sale. Single Cocks, 11; 2 sales. Spanish:—Exceeding one year old, 23 entries; 2 sales. Chickens, 35 entries; 2 sales. Hens, 11 entries; 4 sales. Pullets, 10 entries; 3 sales. Single Cocks, 33; 5 sold. Coloured Dorkings:—Exceeding one year old, 34 entries, 3 sales. Chickens, 87 entries; 23 sales. Hens, 6 entries; 2 sales. Pullets, 16 entries; 5 sales. Single Cocks, 53; 22 sold. White Dorkings:—Exceeding one year old, 19 entries; 2 sales. Chickens, 16 entries; 3 sales. Cinnamon and Buff Cochin-China:—Exceeding one year old, 13 entries; 2 sales. Chickens, 27 entries; 4 sales. Brown and Partridge Cochins: Exceeding one year old, 7 entries; no sale. Chickens, 18 entries; 4 sales. White Cochins:—Exceeding one year old, 6 entries; 1 sale. Chickens, 13 entries; 4 sales. Black Cochins:—Exceeding one year old, 2 entries; no sale. Chickens, 3 entries; no sale. Single Cocks, 19; 4 sold. Brahma Pootra:—Exceeding one year old, 2 entries; no sale. Chickens, 12 entries; no sale. Single Cocks, 11; no sale. Game, (white and piles):—Exceeding one year old, 13 entries; 2 sales. Chickens, 25 entries; 1 sale. Game (black-breasted and other reds):—Exceeding one year old, 57 entries; 1 sale. Chickens, 75 entries; 11 sales. Game, (black and brassy-winged, except greys):—Exceeding one year old, 14 entries; 1 sale. Chickens, 19 entries; 3 sales. Game, (Duckwings and other greys and blues):—Exceeding one year old, 17 entries; 2 sales. Chickens, 26 entries; 3 sales. Single Cocks, 49 entries; 7 sold. Malay:—Exceeding one year old, 5 entries; no sale. Chickens, 13 entries; 1 sale. Any other distinct breed:—20 entries; 5 sales. Gold-laced Bantams, 19 entries; 1 sale. Silver-laced Bantams, 8 entries; 3 sales. White Bantams, 15 entries; no sale. Black Bantams, 18 entries; 2 sales. Bantams of any other variety, 18 entries; 4 sales. White Geese, 13 entries; 1 sale. Grey and mottled Geese, 14 entries; 5 sales. Aylesbury Ducks, 24 entries; 7 sales. Rouen Ducks, 28 entries; 10 sales. Ducks of any other variety, 31 entries; 6 sales. Turkeys:—Exceeding one year old, 7 entries; 2 sales. Hatched in 1857, 20 entries; no sale.

In numerous instances the prices attached to the pens were intended to be prohibitory; the exhibitors not wishing to part with their birds. The sum affixed to the Single Dorking Cock which gained the first prize was 20*l.*; but so magnificent a specimen of his race was likely to have attracted a purchaser, and he was consequently "bought in" at that price by his owner, who preferred to pay the commission of ten per cent. to incurring the risk of losing him. One of the highly commended birds in the same class sold for 6*l.* The first prize pen of Coloured Dorking Chickens sold for 20*l.*; and a commended pen of the same variety sold for 8*l.* A highly commended pen of Coloured Dorking Chickens sold for 10*l.*; another for eight guineas; and two other pens for 8*l.* each. The prices of the Spanish which appeared to be intended for sale were very modest. The pen of Hens which obtained the first prize in their class was claimed at 7*l.* 10*s.*; and the second prize Pullets at 8*l.* Of the Hamburghs, the Silver-pencilled prize pen (old birds) was claimed at 10*l.* 10*s.*, the sum affixed to them; and the Silver-spangled Cock which took the first prize, at five guineas. The Cochins appear to be in some degree recovering the popularity which they formerly enjoyed. The second prize pen of Partridge Coloured Chickens was taken at 10*l.* The third prize pen of the Cinnamon and Buff Chicken Class changed hands at the price of 8*l.* 8*s.*; the same sum being paid for the first prize pen of Adult Whites, and 10*l.* 10*s.* for the first prize White Chickens. A highly commended pen of White Cochin Chickens was taken at 10*l.* 10*s.*; and another highly commended pen in the same class at 5*l.* 5*s.* A highly commended bird among the Single Cochin Cocks fetched 5*l.* 5*s.* The Black Polish which won the Silver Plate were taken at 15*l.* 15*s.*, the sum specified in the catalogue; the third prize Golden, exceeding one year old at 8*l.* 8*s.*; and the winner of the first prize for Single Cocks at 5*l.* The Game varieties were likewise in request. The second prize birds of the Adult Black-breasted and other Reds were sold at 10*l.* 10*s.*; while among the Chickens of the same variety those which gained the first prize sold for 12*l.* 12*s.*: the second prize pen for 6*l.* 6*s.*; a highly commended pen for 10*l.*; and a commended pen for 5*l.* 10*s.* The Duckwing Chickens which received the first premium found a customer at 5*l.* 5*s.* The first and second prize Single Game Cocks obtained 3*l.* 3*s.* and 5*l.* 5*s.* respectively. The White Geese which won the first prize sold for 5*l.*; a pen of Aylesbury Ducks for 6*l.* 10*s.*; the first prize Rouens for 12*l.* 12*s.*; another pen of the same sort for 8*l.*; the second prize Young Turkeys for 6*l.* 6*s.*; and a pen of highly commended ones for 5*l.* 5*s.*

We may add, that owing to the change in the days of holding the Exhibition, the birds were all despatched in sufficient time to reach distant exhibitors in the course of Friday or Saturday, and with diminished labour and anxiety on the part of those gentlemen who charged themselves with the superintendence of this department. Not a single mistake in the transmission of any one member of this vast feathered assemblage has, so far as we are aware, been discovered—a result which is to be ascribed to the completeness of the arrangements, and to the energy and circumspection of Mr. Mapplebeck, under whose direction they were mainly carried out. The same remark will also apply to other portions of the Exhibition; in fact, as we had anticipated, the alterations as to the opening and closing days proved to be a most valuable reformation, as far as regards the management of the Show, and equally convenient both to exhibitors and visitors.

The management of the feeding of the Poultry, as on the last occasion, was entrusted to Mr. George Blyth; and was so successful, that only two fowls and one Pigeon died after their arrival; the remainder being returned in excellent condition. —(*Midland Counties Herald.*)

DURHAM AND YORKSHIRE POULTRY SHOW.

(*From a Correspondent.*)

The Annual Exhibition of Poultry, in connection with the Agricultural Society's Show, at Darlington, took place there on Thursday and Friday, December 10th and 11th; and in some respects, it certainly outshone its predecessors.

The arrangements were certainly better than they have hitherto been; and instead of having the pens arranged, as they were formerly, in *very* narrow rows or passages, in a darkish room, they were this year arranged under a capacious tent, with stoves and fires to keep up a sufficient degree of heat; and with so much space between the tiers of pens, that, though the fine weather (*wonderfully* fine weather for December), induced great numbers of "people from the country" to visit the Exhibition, there really was no great or inconvenient crowding.

I am not personally acquainted with the managers of the Darlington Poultry Show; but, whoever they may be, I think that the greatest credit is due to them for the manner in which they manage matters. As an instance, I may state, that at four o'clock on Friday, the public were shut out; and by five o'clock, the whole number of pens were packed up, and either delivered, or ready for delivery, to their respective owners at the door of the Exhibition. The number of pens being 363.

There was a very good show of *Dorkings*, *Spanish*, and *Game*. *Pigeons*, with the exception of one pen of Owls, and one of Carriers, were but indifferent.

Mrs. Wooler's *Geese* were again victorious, having won at Darlington several years in succession. *Ducks* were not as good as we have seen; and little attention appeared to have been paid by exhibitors to the selection of Ducks in the Rouen class, with regard to bills; none of which, with the exception of the first prize pen, and one other, came up to the standard—the Wild Duck.

The first prize pens of Buff Cochins, Spanish, and Dorking Chickens, and Polands (Chickens) were all well worthy of the place they occupied.—Gallus.

Spanish.—First, W. Lightfoot, Shieldfield, Newcastle. Second, J. Shorthose, Newcastle-on-Tyne. *Chickens.*—Silver Cup, J. Dixon, Bradford. Second, J. Shorthose.

Dorkings (Coloured).—First, S. Burn, 1, East Terrace, Whitby. Second, Rev. G. Hustler, Appleton, Tadcaster. Highly Commended, A. Watkin, Walkley, Sheffield. *Chickens.*—Silver Cup, J. Graham. Second, C. R. Titterton, Birmingham. Highly Commended, W. Jackson, Scruton House, Bedale; H. W. B. Berwick, Helmsley, York.

Dorkings (White).—First, S. Burn. Second, E. Pease, jun., Southend, Darlington. *Chickens.*—First and Second, J. Robinson, Darlington.

Cochin-China (Cinnamon and Buff).—First, T. H. Barker, Hovingham, Yorkshire. Second, R. Hustler, Acklam Hall. Highly Commended, T. H. Barker. *Chickens.*—Silver Cup, J. Shorthose, Newcastle-on-Tyne. Second, J. T. Sigston, Wellburn, Castle Howard. Highly Commended, T. H. Barker; R. Hustler.

Cochin-China (Brown and Partridge).—First, R. Benson, Darlington. Second, J. Bell, Thirsk. *Chickens.*—First, R. Benson. Second, J. Feetham, Great Burdon.

Cochin-China (White).—First, — Bolckow, Marton Hall, Cleveland. Second, A. Watkin, Sheffield. *Chickens.*—First, A. Watkin, Walkley, Sheffield. Second, H. Sharp, Mill Lane, Bradford.

Game (Blacks, Black-breasted Red, and other Reds, and Brassy-winged).—First, H. Adams. Second, — Robshaw, Whixley, near York. *Chickens.*—Silver Cup, D. Snaith, Stokesley. Second, J. Scott, Skipton-in-Craven. Highly Commended, A. G. Waithman, Wheatley, Halifax; — Robshaw, Whixley, York. Commended, M. Stainsby, Rawfolds, Leeds.

Game (Duckwings, Greys, and Blues).—First, D. Leeming, Blackwood House, Halifax. Second, J. Dixon, Bradford. *Chickens.*—First, J. Dixon. Second, E. Wright, Springfield Cottage, Manningham, Bradford.

Game (White and Pile).—First, A. G. Waithman. Second, Messrs. Bird and Beldon, Eccleshill Moor, Bradford. *Chickens.*—First, Messrs. Bird and Beldon. Second, E. Wright.

Hamburgh (Gold-pencilled).—First, Col. Colling, Red Hall, Haughton. Second, Messrs. Bird and Beldon. *Chickens.*—First, Col. Colling, Red Hall, Haughton. Second, A. G. Waithman.

Hamburgh (Silver-pencilled).—First, J. Dixon. Second, Mrs. H. Sharp, Mill Lane, Bradford. *Chickens.* — First, A. G. Waithman. Second, — Bolckow.

Hamburgh (Golden-spangled). — First, Miss G. Smith, Dinsdale Rectory. Second, Rev. J. C. Raw, Ainderby Steeple, Northallerton. *Chickens.*—First, Rev. J. C. Raw. Second, J. Dixon.

Hamburgh (Silver-spangled).—First, Mrs. H. Sharp. Second, D. Wilson, Sutton Fields, Crosshill. *Chickens.*—First, Messrs. Bird and Beldon. Second, Mrs. M. Bragg, Barnard Castle.

Polands (Black with White Crests).—Prize, J. Dixon,

Polands (Golden).—First, D. Wilson. Second, J. Dixon. Commended, A. G. Waithman.

Polands (Silver).—First, J. Dixon. Second, Mrs. J. Stokoe, Hexham.

Polands (any variety).—*Chickens.*—First, Messrs. Bird and Beldon. Second, J. Dixon.

Any other Distinct Breed.—First, A. Watkin, Walkley, Sheffield (Sultans). Second, J. Dixon (Brahma Pootras). Commended, Mrs. H. Sharp (Black Hamburghs).

Cross Breeds.—First, W. Todd, Darlington. Second, J. B. Scotson, Haughton.

Bantams (Gold-laced).—First, Messrs. J. and R. Blackburn, Edmund-street Mill, Preston. Commended, J. Dent, Heighington.

Bantams (Silver-laced).—Prize, Rev. H. Ellison, Melsonby Rectory. Commended, Messrs. J. and R. Blackburn.

Bantams (White).—Prize, A. G. Waithman.

Bantams (Black).—Prize, A. Robson, Darlington.

Bantams (any other variety). — Prize, Col. Colling, Red Hall, Haughton.

Ducks (White Aylesbury).—First, — Bolckow. Second, E. Pease, jun. (The whole class highly commended.)

Ducks (Rouen).—First, T. H. Barker. Second, the Dowager Duchess of Cleveland.

Ducks (any other variety).—First, J. Dixon. Second, S. Burn.

Geese.—First, Mrs. Wooler, Barwick, near Yarm. Second, E. Pease, jun.

Goslings.—First, E. Pease, jun. Second, Mrs. Wooler.

Turkeys. — First, J. B. Booth, Killerby, Catterick. Second, the Dowager Duchess of Cleveland.

Turkey Poults.—First and Second, E. Pease, jun.

Guinea Fowl.—Prize, D. Leeming, Blackwood House, Halifax.

Pigeons.—*Carriers.* — Prize, G. Baillie, jun., Mellerstain, Kelso. *Tumblers.*—Prize, W. Summerson, Haughton. *Powters or Croppers.* —Prize, J. Robinson, Haughton. *Fantails.* — Prize, J. Robinson. *Trumpeters.*—Prize, J. Robinson. *Barbs.* — Prize, J. Robinson. *Jacobins.*—First, G. Baillie, jun. *Turbits.*—Prize, Messrs. Bird and Beldon, Eccleshill Moor, Bradford. *Owls.*—Prize, Messrs. Bird and Beldon. *Nuns.*—Prize, J. Storey, White House, Darlington.

Extra Prize (Musk Drakes).—Prize, A. G. Waithman, Wheatley, Halifax.

Extra Prize (Egyptian Geese).—Prize, E. Pearse, jun.

CHIPPENHAM POULTRY SHOW.

(*From a Correspondent.*)

This Show, in connection with the Chippenham Agricultural Society's Show, took place on December 11th; and though not a large exhibition, nearly every class was well represented. In old *Dorkings*, Miss Milward and Mr. Garlick were the principal exhibitors; and in the young, Mr. Hanks, Miss Milward, and the Rev. T. Goddard, and Mr. Coles. In *Spanish*, Mr. Bartrum showed well; also Messrs. Lyne and Eacott. Mr. Fox showed well in *Game*. In *Cochin-China*, Messrs. Keable and Bartrum carried off the laurels. In *Hamburghs*, Gold-pencilled and Spangled, Messrs. Eacott and Fox showed well. The Rev. C. J. Down showed a good pen of old Golden-spangled. In the class for Silver-pencilled and Spangled, Messrs. Bartrum and Sainsbury carried off the prizes. The former first, with a pen of Spangled; and the latter second, with a pen of Pencilled. In the class for *Hamburgh Chickens* of any variety, Mr. Ingram took first, with a very good pen of Gold-pencilled; and Mr. Keable second, with a pen of Silver-pencilled. In *Polands*, Mr. Fox carried off all the prizes, with the exception of second, for old, which Mr. Higgins took. In *Bantams*, Mr. Bartrum again carried off the laurels, taking first in each class; and Mr. Fox second in each. In *Cross-breds*, Miss Milward took first, and Mr. Little second, with a cross between Cochin and Dorking. There was a good show of *Turkeys* and *Geese*. Also, of every sort of *Ducks*. Mr. Sainsbury sent a very good pen of *Buenos Ayres*, but there being no class for Ducks of any variety, he, of course, had no chance.

We now conclude our report, and would suggest that the

Chippenham Poultry Committee should divide the classes a little more, and they would get a larger Show.

DORKINGS.—First, Miss Milward, on Loe. Second, H. Garlick. *Chickens.*—First, G. Hanks, Malmesbury. Second, Miss Milward. Highly Commended, — Hybole.

SPANISH.—First, J. K. Bartrum, Bath. Second, T. Lyne, Malmesbury. *Chickens.*—First, E. Lyme, Malmesbury. Second, T. Eacott, Devizes.

GAME (Reds).—First, G. T. Giller. Second, M. Wheeler.

GAME (any other variety).—First, J. J. Fox. Second, Rev. T. Langford.

GAME CHICKENS (various).—First, T. Giller. Second, H. Brown. Highly Commended, J. J. Fox; B. Gingell.

COCHIN-CHINA.—First, J. K. Bartrum. Second, T. Keable. *Chickens.*—Prize, J. K. Bartrum.

HAMBURGHS (Silver-pencilled and Spangled).—First, J. K. Bartrum (Spangled). Second, G. S. Sainsbury, Rowde (Pencilled).

HAMBURGHS (Golden-spangled and Pencilled).—First, T. Eacott (Spangled). Second, J. J. Fox (Pencilled). Highly Commended, J. J. Fox (Spangled).

HAMBURGH CHICKENS (any variety).—First, E. Ingram (Gold-pencilled). Second, T. Keable (Silver-pencilled). Highly Commended, T. Keable (Gold-pencilled).

POLANDS.—First, J. J. Fox (Silver). Second, — Higgins (Silver). *Chickens.*—Prize, J. J. Fox.

BANTAMS (Gold and Silver-laced).—First, J. K. Bartrum. Second, J. J. Fox. Highly Commended, J. J. Fox.

BANTAMS (White and Blacks).—First, J. K. Bartrum. Second, J. J. Fox.

CROSS BREEDS.—First, Miss Milward. Second, E. Little.

TURKEYS.—First, Miss Milward. Second, — Sergent, Wrangham. Highly Commended, W. Shy.

GEESE.—First, C. Beaven, jun. Second, R. Rich.

DUCKS (Aylesbury).—First, — Lamb, Paiton. Second, W. Higgins, Chippenham.

DUCKS (Rouen).—First, G. Hanks, Malmesbury. Second, —Keable, Rowde.

CHARACTERISTICS OF HAMBURGH FOWLS.

I WILL give you the opinion of a Hamburgh breeder, of twenty years' experience, on the judgments given upon the Hamburgh classes at the Birmingham Poultry Show. He says:—"It was always my greatest difficulty in breeding Golden-pencils to get a clear, deep, gold ground; and then rich, bold, black-green. The straighter across the feather the pencilled markings are the better: the pencilling not to be little copper-coloured marks, that look as if the feather were shrunk to half its natural growth; nor yet of that large kind approaching the Spangle; but of the larger, middle size, of an oblong shape, forming direct lines of checking round the body of the bird. These lines of checking touching the bottom of the hackle, its feathers often are a little marked in the very best birds; and you cannot get first-rate birds of the kind I mention without their being a little marked in the bottom of the hackle. But the clearer this is the better; as are good white ear lobes, with rose combs."

Now, were the birds characterised, as above-mentioned, that took all the first, second, and third prizes at the Birmingham Poultry Show? No. Instead of that being the case, all the markings in the Golds were so small, and so irregular, that you had no proper checking at all; the pencillings being a grey copper colour: so that where the markings should have appeared on the breast, there were none, or they were so faint as scarcely to be seen. The cocks of the last-mentioned sort are the best to show; they have a rich bronzy tail, good plumage, and are clearer from body marks. But I defy any man to breed good pullets from the prize Pencils of the Birmingham Poultry Show. I have bred thousands of both kinds, and it is from the last-mentioned kind that I breed my show-cocks. You cannot find one breeder of Pencilled Hamburghs, of any experience, that would give prizes if the pullets were of the last-mentioned sort.

Whatever professional Judges may think of my remarks, they are founded on long experience; and they will yet be adopted in the principal Shows. I scarcely ever show myself; but I may state, that I have bred more than twenty birds this year that have taken first prizes at a great number of first-rate Shows, including the Crystal Palace, Yorkshire, and many other local Shows in this neighbourhood; though I never show in my name.

Now, I ask, what would the exhibitors of Dorkings, Spanish, Cochins, Polands, and, in fact, of all the classes out of the Hamburghs, say if I, who know nothing of their respective merits, were to judge in these classes? In conclusion, I am satisfied that the time will come when scarcely any prizes will be given as they have been given in the Hamburgh classes in the middle and southern counties.

Since writing the above, I have heard that one of the Judges at Birmingham ceased to act, because the awards were not in accordance with his views. If such were the case, all honour to him for his conscientious cessation.—J. H., *Bradford.*

WINTER LAYERS.

HAVING just read a letter of "OBSERVER," in which he says he finds his Brahma Pootra fowls the best regular layers at this season, I would say, judging from experience—having kept nearly all kinds of poultry—though the Brahmas were not among the number, that young Cochins, if well fed, and healthy, are sure to turn out never-failing and regular layers.

There is, also, another trait observable in this breed, and I need not say a most valuable one, viz., their great freeness from disease, and comparative facility of rearing when young. I consider them, as chicks, by far the most easily bred; though for beauty and delicacy of eating, give me the majestic Game, than which no finer bird was ever hatched.—A WELSHMAN.

WHAT ARE REDCAPS?

THE question is not unfrequently asked, What are Redcaps? The answer generally given is, that the term is merely another name for Golden-spangled Hamburghs. It was, therefore, with much interest that I noticed, when the schedule of the last Sheffield Show was issued, some months since, there was a class for Redcaps, in addition to that for Golden-spangled Hamburghs, which interest was not lessened when the Committee honoured me by a request to assist in awarding the prizes. As one of the Judges (although in conjunction with gentlemen who were well acquainted with the varieties cultivated in the locality), I took more than usual notice of the birds entered for competition, and will relate from recollection my impression of the classes of *Redcaps.* That they are highly valued in the locality of Sheffield, may be inferred from the fact, that no less than twenty-five pens were sent for competition. They are, in fact, regarded by the townsmen as a most profitable fowl, as to egg-producing powers. The chief points in which they differ from Spangled Hamburghs are, in size, in combs, and in markings. In size they very greatly excel the usual Hamburghs, being as large and compact as ordinary Dorkings; and in markings they want the regularity and beauty of spangle, being much darker on the breast and other parts. The most striking difference, however, is in the extraordinary development of comb; this is increased to so great a degree, that the combs of the hens are much larger than those of the ordinary Hamburgh cocks, even when at their greatest size. So enormous are they, that it is almost impossible for them to balance on the skull; and they generally lop over to one side. This, however, is not regarded as a serious defect by the amateur of the breed; their aim being to produce combs that are of extreme size, square in front, well spiked, and peaked behind; in fact, a rose comb, immensely magnified, and bearing about the same relation to an ordinary Hamburgh cock, that the "Leviathan," does to a common three-decker.

Writing at this distance of time, I should not like to make a positive assertion; but I think that there were several cocks in the Show whose rose combs were upwards of three inches in breadth, and more than four in length, to the end of the peak.

It is a singular fact, that in most of these varieties of fowls, characterised by extreme activity of the egg-producing organs, there is a corresponding development of some of the appendages to the skin; our best layers are always thus distinguished. Redcaps, Hamburghs, and Spanish, by their combs; Polish by their crests; and Cochins by their fluff. Those breeds that are not such free layers, such as Game and Dorkings, being without any such development.—W. B. TEGETMEIER, *Tottenham.*

OUR LETTER BOX.

DUCKS WITH PROJECTING FEATHERS.—"I have lately received a couple of ducks from a friend. The body of the drake is mostly pencilled feathers, but so fine, as to give an appearance in the distance, of a light silver grey; but there are some other coloured feathers in the tail and wing. Those in the tail forming a sort of fan. The head is a pretty green, and bill much the same as in the Rouen duck. The duck is very like a Rouen, both in marking and size, but what puzzles us is, some two or three strong feathers closely knit together, projecting upwards, from each of the wings of both birds. Can you give us the name of them, and any other information respecting their treatment?"—C. M. J.

[Although such ducks as are here described are not common, yet most persons who have had much experience in poultry, have more than once seen instances of these projecting feathers. We once had some brown Call Ducks, and bred from them some years in succession. One or two of the brood always came into the world with what we called "twisted flights," *i.e.*, the last four feathers of the wings were twisted outwards, as though the tip of the wing had been broken and displaced. We have also seen it in Cochin fowls, especially in the cocks. The colour of the drake would be that of a Rouen going out of colour, when the grey of the sides gradually encroaches on the roan breast, till the latter disappears, and the bird becomes a bluish-grey colour; every feather, on being examined, proving to be most delicately pencilled. Our impression is, that this is an accidental variety; but we shall be glad if this notice produces proof that it is a distinct breed.]

PENCILLED *versus* SPANGLED HAMBURGHS.—"At a Poultry Show held in connection with an Agricultural one, in a county bordering on London, a dispute arose as to the qualifications of these two varieties, when both shown for one prize. The list merely specified that prizes were to be given for the best, and second-best, Silver Hamburghs, and a like number for Gold Hamburghs. This, of course, included both Spangled and Pencilled in each class: and the result was, that the first prize for Silver Hamburghs, was given to a pen of the Pencilled variety. My purpose in now writing to you is, to inquire—If a large size be a qualification in the Pencilled birds, or if it be a defect? I also want to know whether they, or the Spangled variety, ought to be the larger; other points being the same: and if you will tell me what the weight of good birds ought to be; as I find there is much difference of opinion in the points which constitute a first-class bird: but where two varieties are shown together, the merits of each ought to be known. And as, in the case alluded to, the Pencilled birds were certainly as large as the Spangled ones, the question is—Were the Judges acting right, in giving it the preference; other points as to the respective merits of the two pens being alike, or supposed to be so?"—H. L. T.

[The Pencilled Hamburgh is not a large fowl, nor should it be; but there is no particular weight recognised as a standard of excellence. We have never heard of their being weighed, and cannot, therefore, specify any rule in that respect. As a rule, the Pencilled are somewhat less than the Spangled: but if perfect birds were shown, it would be no demerit that they were as large as their Spangled competitors. Your own question shows, that in such a class a hardship is put upon the Judge by mixing two distinct breeds in one class, seeing there may be a perfect pen in each. The rules of excellence are, however, well understood in both, and easier of attainment in the Pencilled than the Spangled. We blame the mixture of the two: but if size were the only fault in the successful Pencilled pen, the Judges were, no doubt, right.]

SPURS OF A GAME HEN (*Southern Cross*).—Although some breeds always throw them, yet spurs in Game hens are the exceptions, and, in most cases, accidents. They are, therefore, immaterial; and a hen with one or two spurs may be sent with another lacking them altogether. It is not so, however, with feather. In this respect the hens in a pen should be counterparts one of the other.

COLOUR AND WEIGHT OF DORKINGS.—"In Scotland we are rather fastidious as to the colour of Dorking cocks. Will you, please, say whether a little white on the breast, and some white feathers in the tail of a cock, would be a disqualification? or would a cock of this description be beaten by another with black breast and tail, provided all other things were equal? What weight should first-class Dorking cockerels and pullets be about eight or nine months old?"—L.

[The close adherence to any particular feather or colour in Dorking cocks is, in our opinion, a mistake; and in this we are supported by all our best Judges. A proof of our assertion may be found in the decisions at the late Birmingham Show. Some breeds are judged by feather, as Polands, Hamburghs, and some classes of Game; also Bantams. In these no merit of shape or size can palliate a faulty feather: but in the Dorkings the desiderata are perfect symmetry and large size. Now, in most cases, the largest Dorking cocks will be found to have white spots, or speckles, on the breast. If the two cocks were equal in *all other points* it would be preposterous to decide in favour of one, because he had black breast and tail; and against another, because he had a mixture of white. The Dorking is essentially a table fowl; and as such, colour is not one of its important points. A first-class Dorking cock, at nine months old, should weigh 8 lbs., and pullets 6 lbs. or 6½ lbs. As a rule, they are doing as well as possible, when, for the first six months of their being, they make 1 lb. per month. We have given the weights as requested of first-class birds; but, it must be borne in mind, there is no such thing possible as to breed all of that quality.]

CHARACTERISTICS OF DUCKWING GAME.—"Ambitious of breeding Duckwing Game, of prize-taking quality, but perplexed by the conflicting opinions that have lately appeared in your columns from 'NEWMARKET,' 'NORTH COUNTRY AMATEUR,' and others, as to the comparative merits of the *copper-saddled* birds, and the *Silver Duckwing Greys*, 'with hackle and saddle as near as possible to white.' (See page 123, May 26th, 1857); may I ask to which variety preference would be given by Judges, supposing pens of each exhibited, and that they were otherwise of equal merits? In short, is 'NEWMARKET'S' claim of priority of race for the Silver Duckwing Greys to be considered correct? and would it, by so much, give them precedence of the copper-saddled birds? Again, am I to understand that the hens of the Silver Duckwing Grey should have the hackle clear instead of pencilled, and that it is in this respect only that they differ from the hens of the copper-saddled birds? Again, are Judges decided in a preference for white or blue legs, as 'NORTH COUNTRY AMATEUR' advocates for both these varieties of Duckwing? In the cock of the *Brown-red variety*, should the preference be given to a *black breast*, to a *whole coloured red*, or to a *starling or speckled breast?* Also, is it admissible to have the primary wing feathers *bay*, as in the *Black-breasted Reds?* It is supposed that the hens to be matched are those with black bodies and golden hackles. On one point more I am at fault. Should the short feathers of Game fowls, those on the back for example, be as *pointed* as possible, as in the Partridge, or would the rounded end be equally characteristic?"—TYRO.

[We have every desire to give you all the information you ask for; but in the face of the conflicting opinions of breeders, who evidently bring experience and intelligence to bear on the question, we do so, believing ourselves to be right, but without in any way impugning their assertions. There always has been, and there always will be, much variety of opinion on Game fowls in the minor points of plumage. In other particulars it is necessary to bear in mind that some view and judge a Game cock only as a bird of combat, and swear by those that have borne themselves best; while others see them solely as of beautiful plumage and symmetry. We have always seen preference given to copper-saddled Duckwings; nor do we believe Silver Duckwings have any merit in Judges' eyes over the others. The hens of the latter should have lighter hackles than the former. The question of legs will always remain an open one, and can only be compared to the "Cameleon," which we would paraphrase—

"Nor wonder if you find that none
Prefer your Duckwings to his own."

The positive requisite is, that all the legs in a pen should be similar to a shade. If all the Game breeders were summoned to give their opinions on the subject, every colour would have its supporters, and each body would declare its own to be the only correct one; whether blue, willow, yellow, or white. The willow is certainly a favourite colour for Black-breasted Reds, and blue for Duckwings. The breast of the Brown-red should be neither black nor red, but a mixture of the two blended together; the shafts of the feathers being distinctly marked. The primary wing feathers may be bay; but if mixed with black, so much the better. The hens should not have black bodies, but brown. The saddle feathers of all Game cocks should be pointed. It is very difficult to assign priority in antiquity to one breed over another. These fowls were kept exclusively for fighting more than a century and a half ago; and there is no doubt birds were constantly crossed with others that had proved themselves worthy champions, with a view to secure properties valuable in the pit, but without reference to colour either of legs or plumage.]

PIGEONS DISEASED (*J. Bottrill*).—I am not acquainted with the disease like the roup; but, from the symptoms, would advise five or six grains of tartar emetic to be dissolved in a quart of spring water, and given the sick birds; a teaspoonful morning and evening. Avoid draughts; and let them have a Lettuce to peck. At first, perhaps, they may be afraid of it; but after a time they will much enjoy one occasionally, or any smooth-leaved greens.—B. P. B.

ANTWERP PIGEON (*Birmingham*).—Your Constant Reader will find a full description of the Antwerp in the number for Sept. 29th, 1857. Also of its varieties or crosses in that of Oct. 6th.

LONDON MARKETS.—DECEMBER 21ST.

COVENT GARDEN.

Abundant supplies of both in-door and out-door produce; and a slight improvement in the trade. *Pears* now comprise *Glout Morceau*, *Chaumontelle*, *Jean de Witte*, *Beurré d'Aremberg*, and *Nelis d'Hiver*, with some inferior varieties. From the Continent and elsewhere, large consignments of *Grapes*, *Oranges*, *Apples*, &c., reach us in good condition. The stock of *Potatoes* here, and at the water side, is still heavy, and likely to continue so while the weather is so open. Top samples have advanced 7*s.* to 10*s.* per ton this week.

POULTRY.

The approach of Christmas has given a little life to the market; but, as we go to press some days before half the goods are sold, we can give quotations only to that time.

	Each.					Each.				
Cock Turkeys	12*s.*	0*d.*	to	21*s.*	0*d.*	Teal	1*s.*	3*d.*	to	1*s.*	6*d.*
Hen do.	6	0	,,	12	0	Woodcocks	3	0	,,	3	3
Capons	7	0	,,	8	0	Snipes	1	0	,,	1	2
Fowls	3	6	,,	5	6	Pheasants	2	6	,,	3	0
Chickens	2	3	,,	2	9	Partridges	1	6	,,	1	8
Geese	6	0	,,	7	6	Hares	2	0	,,	2	6
Ducks	2	6	,,	2	9	Rabbits	1	4	,,	1	5
Wild ditto	2	0	,,	2	3	Wild ditto	0	9	,,	0	10

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WEEKLY CALENDAR.

D M	D W	DECEMBER 29TH, 1857, TO JANUARY 4TH, 1858.	WEATHER NEAR LONDON IN 1856. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
29	TU	Mezereon.	30.122—30.055	42—33	S.W.	—	9 a. 8	56 a. 3	7 1	13	2 25	363
30	W	Christmas Rose.	30.211—30.136	47—40	S.	—	9	57	rises	☺	2 54	364
31	TH	Snowdrops.	30.207—30.129	50—45	S.W.	—	9	58	4 a. 24	15	3 23	365
1	F	CIRCUMCISION.	30.063—29.908	53—40	W.	.10	8	IV.	5 56	16	3 51	1
2	S	Andersonia Sprengelloides.	29.722—29.684	51—35	W.	.06	8	0	7 24	17	4 20	2
3	SUN	2 SUNDAY AFTER CHRISTMAS.	29.266—29.110	50—37	S.W.	.04	8	1	8 50	18	4 47	3
4	M	Tree Carnations.	29.374—29.119	42—33	S.W.	.12	8	2	10 9	19	5 15	4

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 42.6° and 31.9°, respectively. The greatest heat, 54°, occurred on the 30th, in 1840; and the lowest cold, 8°, on the 2nd, in 1854. During the period 116 days were fine, and on 80 rain fell.

READERS, Subscribers, and, above all, Friends, we wish you a Happy New Year. This is our last number for 1857; and when next we appear before you, 1858 will have begun.

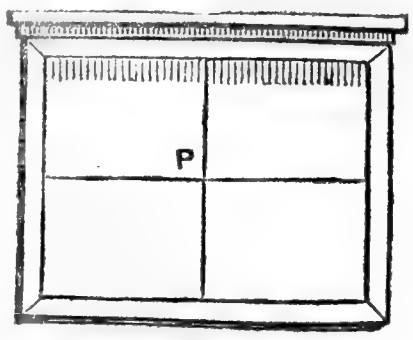
We like the custom of exchanging good wishes on this occasion; and it is by no means a mere form with many. Numbers of kind and generous hearts seek to vent of their fulness on those who have need of sympathy, or, it may be, of encouragement. Thousands can testify to the magical effect of a good wish, or a kindly word, at the right time. We trust we are thankful that, at the close of another year, we are permitted to meet our readers again; and we do heartily wish them all the best wishes of the season. We always feel that we have to ask ourselves honestly whether we have fulfilled the promises we made twelve months since. We can conscientiously say we have endeavoured to do so; and we are encouraged to believe ourselves right, by the fact, that the support we have received from the public has exceeded any previous similar period. As we did not scruple to ask for it, so we do not now hesitate to return thanks for it; and to promise to spare no pains to deserve, not only a continuance, but an extension of the same sustaining encouragement.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 174.)

STEREOSCOPICS WITH ONE CAMERA.

Mark the ground glass of the camera-frame thus in pencil lines.



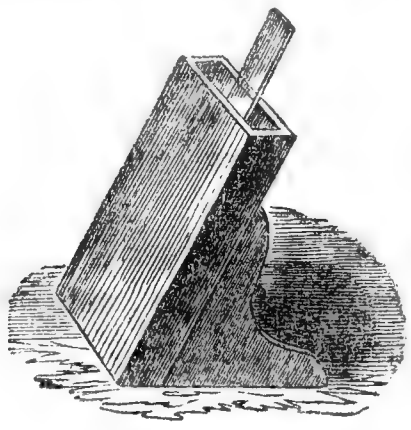
When focussing, notice which particular part of the subject falls on point P. The picture taken, move the camera five inches to the right, in the same plane. Let the same part of the subject fall on P as before. The camera focussed, take the second picture.

N.B.—In mounting the finished positives, see that they are in the same relation right and left as when taken.

COLLODION PROCESS.

(*We recommend the beginner to use small plates.*)

GUTTA PERCHA BATH AND DIPPER.



APPARATUS.

	Cost.—s.	d.
Twenty-four pieces of *clear*, thin glass, each $2\frac{1}{2}$ inches by 2 inches	1	0
Glass vertical bath and stand, inside dimensions 4 inches by 3 inches	3	0
Glass dipper	0	6
Plate box (with divisions)	1	0

POSITIVE PICTURES.

Chemicals.

A.—1 oz. iodized positive collodion	0	9
B.—120 grs. nitrate of silver in 4 ozs. distilled water	1	6
C.—24 grs. sulphate of iron, 40 minims glacial acetic acid, 2 ozs. distilled water. Or, 30 grs. sulphate of iron, 30 minims glacial acetic acid, 20 minims alcohol, in 2 ozs. of distilled water.	0	6
D.—2 ozs. hyposulphate of soda in 1 pint common water. Or, 80 grs. cyanide of potassium in 1 pint of water (POISON).	0	4

Clean the glass plates. If greasy, use tripoli and water, and finish with wash leather.

For the succeeding manipulation, the yellowed light of the operating room is necessary.

Take up a plate by one of its corners; and, holding it in a perfectly horizontal position, pour over its surface an even coat of solution A, re-

turning the surplus collodion to the bottle by tilting the plate.

Pour solution **B** into the glass bath.

Place the collodionized plate on the dipper, and lower quickly into the nitrate of silver. After half a minute, lift it once or twice out of the bath. When a greasy appearance, at first noticeable, has gone off, remove, press the lower edge on a piece of clean blotting paper, that the superfluous moisture may be absorbed, then place it in the camera frame. Should the collodion film flake off when placed in the nitrate bath, it is a sign that the plate was introduced to the bath before the collodion had become sufficiently set.

The time of exposure varies with the light, averaging about a minute.

Remove the camera or frame back to your dark room, and cover the prepared side of the plate with solution **C**.

When the picture is sufficiently intense, the plate must be laid, face uppermost, in a flat dish containing solution **D**, when a clearing process is observable.

The whole image having sharpened, thoroughly wash off the hyposulphate with common water. When dry, back with black velvet, silk, or liquid jet.

Benzoin varnish for protecting the surface of finished photographs on glass, can be purchased at any photographic establishment.

NEGATIVE PROCESS.

For negative plates *negative* collodion is necessary. The following developing solution must be substituted for that marked **C**.

Mix	Pyrogallic acid 3 grs.	6d.
	Glacial acetic acid 1 drachm	
	Spirits of wine 20 minims	

The exposure in the camera is longer than in the *positive* process.

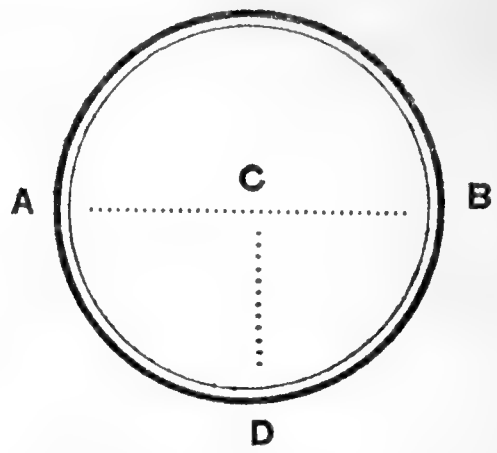
N.B.—The nitrate of silver bath will never yield good results, if it be too acid or too alkaline. Buy a book of *blue litmus paper* at the chemist's.

Dip the end of a strip of the paper into the bath. If it turn *red* suddenly, your solution is *too acid.* If a *faint red* colour be slowly communicated to the paper, the bath is as it should be. If the paper be changed to a *dirty greenish blue,* the bath is too *alkaline.*

If it be proved too *acid,* add (a few drops at a time) a weak solution of ammonia till it is corrected.

It too *alkaline,* add a few drops of pure glacial acetic acid to the bath till a fresh piece of proof paper assumes the desirable pinkish tint.

Spite of care, solutions will sometimes become thick. Hence a glass filter is a useful instrument. Cut out a circular piece of bibulous, or blotting, paper twice the width of the filter. Fold it across



in direction **A B**, then refold do. **C D**. Then open out, when it will be found to fit the filter.

(*To be continued.*)

MR. ROBERT FORTUNE.

Judging from their recent awards, we conclude that some of our Societies have found considerable difficulty in finding personages deserving of the honours those Societies have the power of bestowing. Therefore, we think they will be obliged to us for introducing to their notice Mr. Robert Fortune. And we can assure the Linnæan Society, that if it conferred on him an Honorary Fellowship; and the Society of Arts, if it bestowed upon him its most costly Medal; they would only do him justice, and no more than what all thinking men expect from them.

We will remind those and other Societies, who ought to honour especially men of science, who have conferred great amounts of benefit upon mankind, that Mr. Fortune has introduced more hardy plants into Europe than any botanist since the days of Douglas. Many of his introductions are most beautiful, many highly useful; and amongst the most recent of the latter is the *Abies Kæmpferii,* which is likely to become one of our most useful home-grown timber trees.

We will further remind those Societies that Mr. Fortune has been the only successful agent in introducing the real Tea Plant and Tea cultivators into India from China; and that his three works on the Celestial Empire give us more truthful and useful information relative to the Chinese, than any other publication.

Even America is roused to a full conviction of his merits, and is negociating, we hear, to secure his services. America wants him to introduce the Tea Plant into their southern States; and it will be a shame to our country, if a man, every way estimable, and so capable of serving her, does not obtain some appointment at home which shall take away the necessity for his thus repeatedly girdling the world.

Mr. Fortune is now in the prime of life; and has been, in various ways, labouring usefully and praiseworthily for the last twenty years. We first remember him when he had the care of the hothouse department of the Horticultural Society's Garden at Chiswick, about the year 1840.

PLANTING.—MOVING CONIFERS.—ROSES AND THEIR STOCKS.

We began to transplant large evergreens, in the Experimental Garden, at the beginning of the second week in September. The weather was warm and dry, and the soil was like a hotbed. It was a large undertaking; a re-arrangement of a large portion of one side of the garden—the side, or that part of the side,

which screened off the old kitchen garden for the last twenty years. The plants are all evergreens, and many of them are from twenty to thirty years old; and from eight to twenty feet high; and, more than I like to say, over one hundred plants. One part of the planting was cross-corner ways, through one of the best Strawberry beds in the parish. The old kitchen garden being now devoted to the smaller fruit—as Strawberries, Raspberries, Currants, and Gooseberries, and the whole run, on one side, with wall trees; the other side being a belt of tall evergreens, to divide the two, and keep the fruit in the background, in a literal sense.

Other things being "all right," how would it answer to transplant Strawberry plants which were one, two, and five, and seven years old, just at that time, or say immediately before the 20th Sept.? I do not say what we did with them; but such being in our way, we must have done something with them; and also with a large bed of Raspberries through which we trenched, like reclaiming land from the wilderness. A great many Roses came in for a change: what was the best way to do with them at that season? One Pillar Rose of *Coup d'Hebe*, was twelve feet high, and thick in proportion, the day it was removed; and to convince our "Commissioner," —a young philosopher in his way—of the folly of part of his learning, I ordered the Pillar Rose to be stripped of all its leaves, and to be put in the background, and there to be laid in by the heels till all the planting was finished; and there it rests to this day: for, to tell the truth, we have not quite finished yet. One expense will not more assuredly bring on another, than a stroke of successful planting early in the season, will make that particular season a late season for planting; which may seem strange to those who plant but seldom. But one good idea in planting brings on another, and another: till, at last, the fit is every whit as enticing and "venturesome" as regular gambling. It has been so for the last thirty years to my knowledge; for I have thus gambled like the rest of them, and the spirit does not seem to come to the full till a man attains the age of sixty: and after that age, one might just as well endeavour to turn an old English gentleman from the British constitution, as to advise him from transplanting large trees and shrubs, till the autumn before his death.

But, as I was going to say, in three weeks we had the principal part of the evergreens removed, with little or no balls for the roots—the plants were too old and too big for balls to be of much use to them. Four or five men could thus do the work of twelve or fifteen; as they could easily lift and carry a Holly twenty feet high, which would need a couple of horses to drag it, were it in a ball sufficient for its size. But the best reason is, that this planting was done at the "best time,"—the very time which all new planters ask about. And when evergreens are transplanted at the right time, the plants being in the same field or garden, or not far distant, it is better, nine times out of ten, to take the smallest possible balls with them. In September, the effect of leaving the bulk of the roots in a ball is either their becoming much drier then they were before; or, if watered, to be suddenly cooled unnaturally: and one of these changes would act injuriously. Our pump water at the time was 18° cooler than the Strawberry bed at twenty inches below the surface: therefore, to water those beautiful plants with it, would be little short of madness, as the water would immediately reduce the temperature of the soil about the roots, to the average of November weather; while the weather overhead was more like that of early August, than that of the autumnal equinox. Therefore, the whole of that planting was finished without a drop of water to the roots. But, as luck would have it, a heavy rain came on soon after; which was so mild, that the whole side of the garden "smoked of a morning," as the commissioner told me afterwards.

Towards the end of January, or sooner if we have frost, the whole surface of the newly-planted parts will be mulched with the Cocoa-nut refuse.

From September till now, we have been removing large trees of the Deodar, Cupressus, Libocedrus, Juniperus, Pinus, and Abies; but the Abies and Picea do little good in this part of Surrey.

We have moved, also, a whole Rosary; and, by-the-by, one of the best, if not *the* best "Fountain Rose" in England. Now, Mr. Rivers, which is your largest-sized "Fountain Rose?"—a most appropriate name of your own making. This one is just eighteen feet in diameter; and, by a little indulgence, it might count twenty feet, making a good walk round such a head; and it is no more than the Dog Rose requires, to keep it in good health, and to make it grow thicker and thicker every year. Surely the world will not go on much longer murdering two-thirds of our best Roses on the Dog Rose stock, not in cold blood, but in want of blood altogether. How we come to know that it is no more than such a head as would keep the Dog Rose, *increasing in diameter*, is, that this one was transplanted five years back, when the roots were much cut back; and two or three of them still go on throwing up suckers. Now, in the woods and wilds, when the Dog Rose is full-headed, carrying large crops of hips every year, it ceases to make suckers, or very few indeed. It would be a good criterion of the health of a Rosary, if we were to measure all our best standards, and note the *diameters* in the Rose catalogue, and find a sensible increase, say every third year. If a Rose stock be in good health, it will increase sufficient to be perceived in that time; but if it be not so, it will not give a perceptible increase of diameter in ten years; and in five or ten more years it is dead and forgotten: although, there is nothing to show, why a Dog Rose on its own roots should not live two or three hundred years.

The most singular thing which we noticed in this work, was the perfectly perpendicular downward tendency of the roots of the Deodars. Out of a dozen of large plants, which were transplanted from the nurseries not longer than five or six years, not one of them made a side-root a foot long—every root went down as straight as a plumb-line; some of them to the length of from five to seven feet: the last four of which were of the same size and full of fibres; showing they have grown very fast, and that the soil particularly agreed with them. They were in a newly-trenched piece of meadow—a black-sandy, light loam, with a very sandy bottom; and it was into this sand that the roots spread; or, rather, did not spread, but went right down into it, without any side-roots. Now, to take a ball with any of these trees would be impossible. A pillar, five feet long, and two feet in diameter, will represent the kind of "ball" required. All we could do was, to leave about eighteen inches across, and from six to nine inches in thickness, round the stem of each tree; so that one man could carry a ten, twelve, or fifteen-feet tree on his shoulders, after once having it out of the pit. The men had to help each other out of the pits, by lengths of arms. I never saw such a thing in all my experience. But, having put quantities of the Cocoa-nut fibre in, under, and over the roots, and then fixed them with three or five cords tied to so many points in the circumference, I think they will grow, every one of them; but if I had known how they stood before that arrangement was settled, these roots would have been first cut round, and the trees left another year. The last of them was finished on the 18th of December, with about one pound of ball

for every foot in height. Nothing better could be done under the circumstances: but if they die, and I am alive, I shall tell how they look, or do, or did. The lesson to be learned from these Deodars is this—that young plants of them, and of all other Conifers, or, indeed, of any choice trees or shrubs which are nursed at home, before they are finally planted out where they are to remain, should not be temporarily put on deep soil, or where they can strike down their roots freely, and that they should not remain more than three years without being transplanted; but the best way would be to plant them in rough, shallow, wicker baskets, and the bottoms of the baskets to be plastered with clay, so that the new roots could only find their way out by the sides; the baskets to be set on a hard bottom; and a very loose compost to be set all round them, and inside the baskets. If our trees had been cut round in the usual way, and without knowing the roots were chiefly down from the centre of the original balls, we should have been deceived, and very little advantage would be gained by the cutting of the very few side-roots.

We learned a very important lesson from the Roses, and one which is in direct opposition to the generally received opinion, my own mature opinion among the rest; but having had a special opportunity, I was unwilling to let it slip without experiment. Some of them, or, indeed, the greater part, were removed about the middle of September without any pruning; and some of these have the leaves, or most of them, as fresh now as they were then. Two or three standards of *Auguste Mie* never lost a leaf by the change at that early season. Some were pruned nearly as closely as for winter pruning; and some were merely stripped of their leaves. The whole were taken up and put in their new places during the first fortnight of December.

We had thus a fair opportunity of judging of the best way to treat Roses on being transplanted at the right time, say in November. If, then, it be a sign of the best management to have the most young roots, those Roses which were pruned in the hardest had a decided advantage. They made fresh white roots from two to six and seven inches long in the interval, all over the old black roots; and those from which the leaves were stripped were, at least, as well rooted, if not better, than others which had all their leaves green to the last. There was no opportunity of testing whether Roses on their own roots were better than budded ones. The whole were budded, or worked, plants; but the Manetti stocks rooted much more freely than the Dog Rose; and yet none of our Roses hardly live on the Manetti, after three years, on this light soil. And this leads me to try one more experiment with it before I discard it. First, I shall make a score of cuttings of it myself; which, I shall warrant, will never make a single sucker from the wood: and they all say it does not sucker from the roots. Secondly, I shall graft half a score or so on pieces of the Manetti roots: and leave the grafted part "between wind and water," or just at the surface of the ground. When one puts the grafted (or budded) part of a Rose, or an Apple, or an Oak, well under the surface, roots will issue from the grafted or budded part, as surely as leaves will come on the branches: therefore the test of merit, or no merit, is left undecided. I always thought—and I am of that opinion still—that it is the slovenly way of making cuttings of the Manetti from *heeled* shoots, and from *undisbudded* pieces of the shoots, which makes all the difference. No one can prevent a heeled cutting *of any plant* from making suckers after a while. Therefore, no stock should be made from a heeled cutting. And all Roses on their own roots come better, and pay better, from heeled cuttings for the same reason—they *will* make suckers; and every time you transplant them, they will yield increase by rooted suckers ready to your hand. But the commonest Willow in the parish, will never make a single leaf, as long as the world stands, if the buds are first picked out from a yearling shoot. You may make such Willow cuttings from five to ten feet long, and they will root as "freely as Willows," but never make a leaf, or sucker, or side-shoot. Then, suppose you were to graft them with other kinds of Willows; would they make suckers after awhile? Never. But, suppose you were to knock off all the heads, after ten years, how would the Willow stumps, or standards, fare after that? Why, they would die down inch by inch; and, last of all, the roots would die also, sooner than force one latent bud. Then, if that be so—and there is no doubt about it—why should we ever see a sucker on a Manetti Rose? Why, indeed! But that is the question; and the next is, will the Roses do on the Manetti, in the Experimental, provided the Manetti is first prepared there? I think they will. But if I order a thousand Roses on the Manetti in the meantime, the agreement shall be no pay for any one of them, if a single sucker be seen from them in three years; and not only that, but a compensation for damage and loss of garden time shall be sued for.

After all is said, there is a sad tale about stocks for dwarf Roses, in some parts of the country. A new Rose comes out; and straightway it is budded on all suckers of the old French kinds, about a place: and in two years, the suckers from these either kill the new Rose, or destroy the stocks; the only comfort is, that one can thus test a new Rose very cheap; for none but your cheap dealers would stoop to cheat you.

D. Beaton.

THE NODE.

This pretty residence of W. Reid, Esq. is close to the highway between Welwyn and Hitchen; being three miles from the former, and about seven miles from the latter. The neat picturesque mansion, a small lawn, a very effective flower garden, a much-in-little-space garden behind it, some glass houses, and very commodious offices, are all clustered very conveniently together; and yet, though so near, each can be examined separately—care being taken that the artistic and the beautiful are not brought so closely as to clash with the ideas of the merely useful. All this is concealed from the passing traveller by means of a small, well-managed plantation close to the highway. Though the estate altogether is not large, yet if a person can be pleased (as a sensible man should be), in looking on a fine extended landscape, and so far appropriating its beauties and interest as to make them his own, then I do not see—farther than that the proprietor should be able to say, "Such and such fields are mine,"—that the interest of the Node, and many charming places something like it in extent, would be in the least increased, though told it was the centre of a demesne with many thousand acres every way round it. It is very doubtful if many, who really possess all these advantages, realise so much pleasure from looking at their rich gardens, and the picturesque woodland scenery of old England, as many others do whose hearts glow more warmly in sympathy with the beautiful; though, with the exception of the earth contained in a few flower-pots, they may be safely written down as "landless men."

The boundary plantation, where it joins one part of the lawn, shelves down into a deep irregular dell; and but for the noise of a passing carriage, you might, in the secluded spot, fancy yourself in some wild lonely tarn. Winding walks have been taken through this

dell; pools and mimic lakes have been formed; and when I saw it at the end of harvest, the banks had been covered grotesquely with all kinds of rough and romantic-looking tree-roots, &c. And upon these, and in the spaces between them, a good collection of Ferns had been planted; the more rare being kept in appropriate positions near the sides of the walks. The walks were bordered with several rows of white flint stones, which rendered them rather glaring for the subdued sombre colour of the Ferns. Mr. Reid informed me that they intended planting variegated and other fine-leaved plants among the Ferns; and when this was done, and a little more light given, there would be less danger of monotony, and these flint lines might be broken with advantage.

The lawn on the side of the park is bounded by a neat iron fence; but the walk *does not go near it,* and you are so taken up with other subjects, that you never think of the fence—though there it is, if you should take it into you head to look for it—affecting no concealment; its seen utility and efficiency stamping it with appropriateness. Unless it be peculiarly desired to convey the idea of extent, a seen boundary, when not too near, is just as good as a concealed one. With the main walk at such a distance from the boundary, as in the present case, the concealed fence, or the exposed fence, is merely a question of desires and expense: but what I have already protested against is, the practice of making a sunk concealed fence, and then taking the principal walk so near it, that you must of necessity see it.

On the lower side of this lawn are a number of Rose-beds, covered in summer and autumn with Verbenas, without at all injuring the Roses; many raised beds, the sides being covered with dense masses of Maurandyas, and Lophospermums; and some of them furnished with arches over them to resemble huge baskets; the arch being also densely clothed with summer creepers, the centres being filled in many different ways. A circular bed in front of the house, planted on the ring system, had disappointed Mrs. Reid; chiefly because the fourth row from the outside was composed of *Campanula Carpatica,* which could not be made to bloom densely right through the autumn. The three outside rows were *Baron Hugel, Dandy,* and *Golden Chain* Geraniums. The *Dandy,* though a fine plant, being rather short for its right and left hand supporters. One of our neighbours manages the Campanula all the autumn by means of frequent waterings, and never allowing a seed-pod to remain. Of course, the trouble is great; and where that trouble cannot be given, and the plants are divided and fresh-planted every year, it must not be depended on after August.

On the east side of this main walk the chief flower garden is placed, with the plantation fronted by a shrubbery, as a nice background in one direction; and the glass houses, and a lofty colonnaded fence, formed of larch poles, and densely clothed with climbing Roses, &c., on the other side. The group consists of nine large clumps on grass; and for huge masses of bloom I have seen nothing more striking this season. Mr. Smith has frequently told me, that, if he had not planted these beds, he could not have believed they would have required so many plants. Each bed consisted of two colours—a centre and a broad margin. The centre clump is of a circular form, and twenty-four feet across; but sixteen feet in the centre are grass, and supplied, I think, with a huge basket; leaving a border outside the grass, all round, of four feet. Another twelve feet of grass from that and the other eight clumps are arranged in a circular form. Four of these are heart-shaped, but with the points bluntly rounded; some twenty-six feet in length, and much the same in breadth at the widest part. To vary the outline, lessen the size of the figure, make the centre more accessible, and give a more intricate blending of colour, three small semicircles are swept off the figure—one at the wide apex, and one on each of the sides. Four triangles of the same length, but narrower at the base, and the sides rounded, are placed between these large-hearted figures. Like most effective planting, the arrangement could hardly have been simpler. Two hearts opposite each other were filled with scarlet Geraniums in the centre, and with a belt two feet and a half wide of Floribunda. Two triangles opposite each other with yellow Calceolarias, belted with two feet and a half of purple Verbenas. The other two hearts were filled with Ageratums, belted with two feet and a half of scarlet Geraniums. The other two triangles had white Verbena for centre, bordered with two feet and a half of blue *Campanula Carpatica;* which here had done better than in the centre of a bed. These might be changed and arranged in many ways: but for very large beds, if not ringed in rows, no mode is more telling than giving broad margins.

Though Grapes are cultivated in the houses with very fair success, the growing and keeping plants are the chief objects with them; and a house, and frames, and pits in the small garden behind the Rose fence. There is a good wall at the north side of this, partly supplied with Peach trees, and partly with Vines. Mr. Smith is generally very successful in ripening Grapes in great perfection, under a common garden frame; though this season, just when nearly ready to cut, a hailstorm smashed the glass, and riddled the bunches. I have seen here very fine black and white Grapes in former years. The Vines are grown against the wall, chiefly on the rod system; every encouragement being given to enable them to swell their buds, and ripen the wood. In spring, before the buds break, a shallow bed of sweet dung is made in front of the Vines. By the time the buds break and show, the bed is quite sweet, though retaining a fair portion of heat. The surface of the bed is now covered with slate, which gets heated by the sun after the heat of the dung is well-nigh gone. The best canes or shoots, that show strongest and most abundantly, are now introduced into the frame, fastened to a rough trellis; and all they require are a little attention to covering, *air-giving especially,* and thinning the bunches. We have seen good Grapes obtained much earlier by this mode, than by merely placing sashes against the wall, as in a cold house; and, in general, they are not so liable to the red spider. Painting the slates with sulphur water is a good preventive; and also doing the same with the woodwork of the frame. Vines have been, and may be, *forced* pretty early by this mode; but more care is necessary when dung is the sole agent used.

The main kitchen garden is some five or ten minutes distance off; and besides having a good supply of the needful, has nothing very remarkable, except a long narrow glass house about its centre. Had the Rose-fence not already been at the flower garden, I have no doubt this house would have been a fine feature as a boundary; and would have formed a fine promenade besides. It may be considered an improvement on the glass walls, that lately received such high recommendations; though gardeners looked very sly and wary at them. This house is glass all over; the length is ninety feet; the width inside is six feet and a half; the height of the sides is nine feet. From the two sides it rises and curves to the centre, where the height is twelve feet. For ventilation, a cap in the centre is raised for half the length, by a windlass at each end. Small sashes open outwardly at the bottom of each side. Half of each side is done from one end,

and half from the other, by means of a wheel and racket. The trees are planted inside, and on both sides; and are trained on a trellis about a foot from the glass. The appearance of the trees said, that as yet they had met with nothing to disagree with them. There was some fine fruit, and there seemed to have been great plenty. The trees were chiefly Peaches and Nectarines; a Fig tree, something in the way of the brown Turkey, had fruit as large as a fair-sized *Beurré Bosc* Pear. In a few years the trellis will be entirely covered; and an arbour-arcade form thus be given to the walk beneath. The whole appearance is very compact and neat—like everything else about the place. I think it right to mention such examples out of the common routine; though, as yet, were the same amount of glass given to me to make the most of, I should be inclined to sink the elegant, and cover a larger space of ground. There can be no question, however, that for many places, such houses would be more in character than any combination of the lean-to or the span-roof. The house is not heated. Its future will be eagerly watched by many.

I found gardeners, house servants, and stable men, along with the young gentlemen, eagerly engaged at cricket, preparatory to a great match, in which they were to be engaged the following day. All appearances seemed to testify, that nothing was lost by such free intercourse, change and relaxation; and that, instead of fostering anything like carelessness, they acted as promoters of renewed exertions and increased industry.

R. Fish.

FLORISTS' FLOWERS.

THE PHLOX.

(*Continued from p.* 161.)

Propagation: *by Cuttings.*—This mode of increase need only be resorted to, when any kinds are new or scarce in the collection. Scarcely any plant increases so easily by cuttings as this. I remember when *Imbricata* first came out, Messrs. Henderson, of Pine Apple Place, had only three or four plants in 48-pots; yet their propagator increased the stock that season before planting-out time, to as many hundreds; and, had they been required, could readily have doubled the number. The amateur, however, will not require such a large quantity; but he must follow the same method in order to increase his stock.

That method consists in preparing the plants for propagation. They should be placed in gentle heat, about the middle of February. The shoots will quickly spring up; and as soon as they are an inch and a half high, then get ready the propagating-pots. Choose them quite clean, four inches diameter, and drain them well; that is, lay first a large piece of broken pot over the hole, upon that place four or five rather smaller pieces, and upon them lay an inch or so of pieces the size of peas; cover them with a thin layer of moss or rough siftings, and then fill the pot to within an inch of the rim with a compost of turfy loam, decayed leaves, and heath mould, in equal parts, well mixed together. Fill up the remaining inch with pure white silver sand; give it a gentle watering to make the sand firm, then collect the cuttings. Take them off with a very sharp knife, and trim off the lower leaves. Finish one kind first, and plant the cuttings in the sand with a small stick: a pen-holder with a tapering end makes a very good one. Press the sand firmly to the bottom of each cutting, placing them neatly in rows across the pot; then number or name the variety; and so proceed till all the sorts ready for propagation are finished. When that is done, give another good watering, and allow the cuttings to stand on the bench out of the sun till the leaves are all dry. Then place them in a gentle hotbed, or in a propagating house, taking great care to shade them from the sun. If the sand become dry, give a gentle watering from a very fine-rosed pot; but this should be done early in the morning, in order that the wet may dry up quickly. In this tender state, too much damp will soon cause them all to decay. Slugs are very fond of the young leaves in this state, and will be sure to find them out, unless they are closely looked after. As soon as growth is evidently taking place, then a little air and less shade should be given; and as soon as roots are evolved, pot them off directly, nipping off their tops at the same time. Use very small pots, and replace them in the frame, sheltering from sun and frost. As the season advances, harden them gradually; and then, if space can be spared, give them a second shift. They will then be strong plants fit for planting out in May.

By Division.—In places where there are already many plants of Phloxes, this method of increase is the best, because each division will send up several stems, and thus make a good display next season. I would here warn the amateur against procrastination. The season for this operation is too often put off till spring; but the right season is as soon as the stems are cut down in autumn. Let any one try the experiment: he will find the autumn-divided plants spring up with double the strength, and produce many more flowers, and finer heads too, than the spring divisions. Another point to guard against, also, is not to make the divisions too small. Unless the plants were very large, I never divided them into more than four quarters. The inner roots must, of necessity, be cut through; but the outer roots may be kept entire. The beds for them should be dug deep; and the soil made light, rich, and sandy. This work should be done as early as possible, in order that the soil should settle down into its place before the plants are divided. Then, having arranged the mode of growing them, whether in beds all of one kind, or in the mixed style, or in belts, proceed at once now, and plant them; allowing the crowns to be about half an inch deeper than they were before.

The Grouping.—This should, of course, be studied well before the replanting. Every gardener, who has his wits about him, and has an observing eye, will the year previous have noted the heights, and colours, and habits of his Phloxes, as well as any other species of out-door plants—will have this knowledge handy, either in his brain, or in his garden-book. The next thought will be, How am I to manage my Phloxes? The space that can be devoted to them will partly determine this. In a large place, it would be easy enough to have a separate piece laid out purposely for them: in my opinion they are well worthy of this distinction. Then the colours may be arranged so as to blend harmoniously quite as well as Verbenas, Geraniums, Calceolarias, and others. The tall growers—by which term, by-the-by, I do not mean to include such as grow three to five feet high; these giants I would confine to the shrubbery borders. But in my choice nook, I would grow none more than two feet, and they should be in the centre of a large bed. By the descriptive list which I intend to give, any amateur may select as many varieties as would give him a good mass of each of various colours. We are not all agreed yet as to the arrangement of colours; but we do all agree, that violent contrasts should be avoided. Now, supposing we have a stock of a two-feet high Phlox of a pleasing rose colour; that variety should be planted in the centre of a bed, and edged round with a delicate blush, finished off to the extreme edge with a pure very dwarf white: but if there be a cluster, or a row of small beds, then each bed should be of one variety; commencing, say with white, then blush, then pink, then rose, and lastly, purple; gradually descending in

colour beyond. Again, if the collection be grown in a long border on each side of a walk, the back row might be white; the next, rose; the next, blush; and next the walk, a low dark variety. This order might be continued part of the way, and then gradually reversed. I have grown long borders of Phloxes, arranged in such a style, and they were much admired. I fear it will be difficult to persuade any gardener or amateur, to give up a small plot to the culture of Phloxes alone; but let any one try a small corner, or retired nook, with these plants, and I will venture to say, he will not regret the time and space given to them, especially if he procure the improved varieties. T. Appleby.

(*To be continued.*)

NOTES ON NEW OR RARE PLANTS.

Grevillea Alpestris. Nat. ord., *Proteaceæ*.—Native of New Holland; and introduced to our gardens through the agency of Mr. Rollisson, Tooting. A very handsome and freely-branching shrub. Branches slender, pale green, and densely covered with foliage. Leaves small, ovate, but more frequently elliptical; dark green on the upper surface, pale on the under surface, and pubescent on both. Inflorescence umbellate, with short, downy pedicels. Perianth moderate in length, dull scarlet in the lower half, becoming gradually yellow in the upper half; slightly hispid.

This ranks among the best recently-introduced greenhouse plants; and is decidedly superior to most of the species of Grevillea already in our collections. It blooms profusely, and lasts long; and while in flower, the plant possesses such a happy contrast of green, scarlet, and yellow, that it cannot fail to please. The culture seems very simple. A compost of about equal parts of loam and peat, fibrous and light, with a good portion of sand, over a well-secured drainage, suits it remarkably well; and a cool pit, while the plant is young, is the best place to grow it in. Stopping is, of course, necessary in growing the plant for exhibition purposes; but the natural habit of the plant is very good. Increases easily by cuttings in very sandy peat in the usual temperature for cuttings of greenhouse plants.

Polygonum Vacciniifolium. Nat. ord., *Polygonaceæ*.—Introduced into this country by Dr. Royle, from the Himalaya. Perennial, with short, creeping, branching stems. Leaves alternate, smooth, acutely ovate, gliding suddenly into a short petiole. Stipules sheathing, very membraneous, cut very deeply and finely at the apex. Inflorescence, a spike about three inches long, terminal, and lateral; thickly crowded with bright, rosy florets. Calyx of five ovate, spreading sepals. A beautiful little hardy plant, if placed in the situation it favours; but about this it is rather particular. It will bear plenty of shade and moisture; but it so dislikes sunshine and dryness, that it dies of them. The northern and lower side of a rockery seems to be the most suitable place for it; as coolness, shade, and a degree of moisture are more easily secured in such a situation than if the plant were bedded out. It blooms in October and November; and during these months nothing can surpass its liveliness; imparting, as it does, a glow to everything around it. Any common garden soil, if not too close, to be over-retentive of moisture, or so open as to become dried up, suits it well; and it may be propagated by division, cuttings, or seeds.

Clematis Tubulosa. Nat. ord., *Ranunculaceæ*.—Native of northern China. Stems erect, two or three feet high; sparely branched, two or three inches at the base, woody; the rest herbaceous. Leaves opposite, on long petioles; which latter are grooved above, and slightly swollen at the base, trifoliate, with the leaflets between ovate and rhomboid; the two lateral ones rather unequal-sided; margins lobed, and furnished with mucronate toothings. Veins very prominently reticulated on both surfaces; somewhat downy. Inflorescence corymbose, with downy peduncles, and pedicels. Calyx divided into four linear sepals, of rather fleshy substance; at first erect, afterwards becoming reflexed. A very distinct and curious species, and well worthy a place in a choice collection of herbaceous plants. It blooms in August and September. A moderately light soil, and a good exposure, develope it well; and, being quite hardy, these are easily secured. May be propagated by seeds or division.

S. G. W.

[We shall be much obliged by the monthly notes.—Ed. C. G.]

NOTES FOR JANUARY.

Sow the double-blossomed *Early Frame Pea*, in rows, five feet apart. It is an old sort, but good in quality, and productive. When the crop makes its appearance above ground, a good sprinkling of soot will promote its growth, and check the attacks of slugs. Sow the sword *Long-pod Bean*, four feet apart; it will produce an excellent succession. Towards the end of the month, sow small beds of *Early Horn Carrots*, and short-top *Radishes*, on a warm border; a row or two of *Parsley*, as an edging to borders; and a small bed or two of *Onions* will be as certain to vegetate as any of the other seeds at this early season, and are left untouched by the crawling enemies of early spring vegetables.

Plant *Ash-leaved Kidney Potatoes* in any sheltered situation, on a dry border, or at the foot of a wall, or fence; *Shallots* and *Garlic* in very shallow drills, being only pressed sufficiently to stand them firmly on the soil, which would be improved by the admixture of a little wood-ashes, or charred refuse, along the drills. Plant the smallest *Onions*—the two-bladed is the most preferable, not being so apt to run to seed as the other sorts. Early *Peas* and *Beans*, appearing above ground, to be protected from frost by drawing the earth from each side over them, or by covering them with sand or sawdust. If severe frosts set in, the *Cauliflower* and *Lettuce* plants, in pits or frames, or under handlights, will require some protection; but if, through any neglect, they become frozen, the bad effects may be obviated, by covering them up to the exclusion of sunlight until they are perfectly thawed; advantage to be also taken of such favourable weather for wheeling dung on to the ground, for throwing heavy ground into ridges, and for turning over manure heaps, which are then most effectually done both for the destruction of grubs, and to ameliorate the condition of the mass, by turning off the frozen or encrusted portion each morning until the whole is finished.

The *Gooseberry* and *Currant* trees may now be pruned, and the best of the prunings put in as cuttings. In some places, the buds are picked out by the birds when the winter is severe, and food scarce, where pruning is postponed to the latter part of February. Although the weather is remarkably mild, we should not be allured into a false security; but act with the impression strongly on our minds, that there "are breakers ahead."

Dig and supply *flower-beds* with fresh soil, composed, if possible, of a large portion of leaf mould. When the weather will not permit out-door operations, such leisure time may be usefully employed in making lots of flower-stakes of different sizes, and painting them; also labels, pegs, and brooms, where birch is at hand. Forethought is necessary to provide such things now; for, if postponed until they are wanted for use, the busy time will have arrived when such tedious work will be considered a bore. As many of the bulbs, and other florists' flowers, are peeping out of the ground, and making an unusually early growth on account of the very great mildness of the season, and are, consequently, more susceptible of injury from frost, it is advisable to be prepared with the means of protection when more severe weather, which we think is inevitable, sets in. The *Auricula*, alpine in its character, and protected by snow in its native place, is impatient of con-

finement with us, and, therefore, should be favoured with an abundance of air at all favourable opportunities; and, being under pot and artificial treatment, will require protection during severe weather, being more susceptible of injury from frosts than when planted in the open ground. Seed may now be sown in well-drained pots or pans, using any light, rich soil; to be covered very lightly, placed in a cold frame, and protected from severe frosts. *Polyanthuses*, in pots, will require similar treatment. *Carnations* and *Piccotees* to be exposed to all the air possible. The beds of *Pinks* and *Pansies* to be looked over occasionally, as the lately-planted are apt to be disturbed by frosts or worms; they should be firmly pressed into their proper places again. If sharp cutting winds occur, some Spruce Fir, Fern, or such small branches stuck between the rows, will assist very much to protect them. If the mild weather continue much longer, the *Tulips* will be emerging from the ground; when it will be advisable to place a cone of sand, or any light soil, over each, to afford protection, should severe weather set in. The bed, or beds, for *Ranunculuses* to be got ready without loss of time. If the soil be poor, it should be enriched by the addition of a portion of turfy loam that had been reduced to a mellow state by frequent turnings, and exposure to atmospheric influences, and well-decomposed dung incorporated with it two feet in depth in the bed, or beds. To be left in a rough or ridged state until next month, when it will be levelled down, and planted.

At this season, particular attention is necessary to be given to the *greenhouse plants*, that they may neither suffer from an excess of artificial heat, nor from a degree of temperature below the freezing point from the external atmosphere. An external covering, where practicable, should be applied to retain sufficient heat in the house from a gentle fire. When without such protection, a strong fire is necessary to resist sharp frosts, and this excites the plants into a premature and spindly growth. A temperature of 40° is all-sufficient to keep the plants in a comparatively dormant and healthy state with green foliage; and the application of water will not be so frequently required as when exposed to a higher and drier temperature. If the weather be mild, air to be given freely; and as such weather is favourable for the increase of green fly, frequent fumigations will be necessary. The Tulips, Hyacinths, and other bulbs, that had been potted in good time, as recommended, will have their pots filled with roots; and where there is no forcing pit, or frame, at work, they should now be introduced here, and placed in the warmest part, with an inverted pot over each, to produce elongation until the flower begins to expand, when it should be removed altogether. The hardy annuals recommended to be sown in August, and kept in a cold frame, may now be removed to a shelf near the glass to grow stocky; and when in flower, to be removed to more conspicuous situations. Cinerarias will now be throwing up their trusses of flowers, and will require careful attention in watering, and protection from green fly. Small wire or other fancy baskets, filled with Chinese Primroses, Cinerarias, &c., and surrounded by Ivy-leaved Geraniums, or other plants of a drooping habit, when suspended from the roof, serve to give variety and a picturesque appearance to the house. Acacia, Epacris, Polygala, Erica, and other such hard-wooded plants in flower, will require attention that they do not suffer for want of water. A few of the Pelargoniums, Calceolarias, and other soft-wooded plants that have been kept in small pots during the winter, may be shifted into their blooming-pots. The soil intended for greenhouse plants should now be prepared, and sweetened by frequent turnings, and a sufficient supply for immediate use stored in an open, dry shed. Fuchsias should now be potted, cutting back their roots pretty freely, using a small pot to begin with, and shifting them into larger pots as the roots extend to the outside of the ball; to be supplied with a temperature of about 50° by day, and 40° by night. Cuttings of the young wood will strike freely in the same temperature in shallow pots, or pans, of pure sand.

Air to be admitted, in favourable weather, amongst the plants in pits and frames. If they are kept close at this time, when there is comparatively but little sunlight, the tissues become relaxed, a weak growth is induced, instead of a sturdy, compact habit of growth, so essential for an early and a continuous bloom.

A one-light frame should be got ready for increasing the stock of bedding-out plants. About a one-horse load, or twelve barrowfuls, of stable-manure, to be frequently turned over to sweeten it, and the long litter removed. In a fortnight or three weeks it will be fit for making the bed. When made, the frame and light to be put on, and air admitted until the first strong heat, or rank steam, has passed off; when it will be fit for a batch of cuttings of Verbenas, Fuchsias, Heliotropes, Ageratums, Salvias, Petunias, &c., in cutting-pots. Sandy soil, good drainage, and free admission of air, in favourable weather, are indispensable for their success.—William Keane.

ENTOMOLOGICAL SOCIETY'S MEETING.

In the absence of the President of the Entomological Society, the chair was taken at the Meeting of the 7th of December, by Dr. J. E. Gray, F.R.S., Keeper of the Collection of Zoology in the British Museum, and one of the Vice-Presidents of the Society.

Mr. Stevens exhibited the fine large Beetle, *Dynastes Actæon*, from Peru, and a specimen of an apparently distinct species, also from South America.

Mr. Edward Newman exhibited a dark variety of the British Butterfly, *Argynnis Euphrosyne*, and a specimen of the Brazilian Weevil, *Heilipus brachypterus*, having several specimens of a black thread-like fungus, apparently a Sphœria, growing out of various parts of the body. Another similar instance, occurring also in a Brazilian Weevil, had been figured by Mr. Westwood in the Society's Transactions from the specimen in the Hopeian Collection.

Mr. Holdsworth exhibited a piece of the wood of a Scotch Fir infested by the larvæ of the *Sirex duplex*, of Shuckard. The insect had done considerable injury to a plantation of these trees; and he inquired of the members present, whether any means could be adopted to destroy them? It was observed, however, that the structure of the ovipositor of the female of this species proved beyond a doubt that the eggs were deposited beneath the bark; and as the larvæ ate into the solid wood of the trees, there appeared to the members present no mode of checking their ravages, but by cutting down the infested trees, or destroying the perfect females before they deposit their eggs.

Captain Cox exhibited a number of beautiful drawings, representing the transformations of different British Lepidoptera, including eight species of Bug Moth (*Eupishecia*), likely to prove an important addition to our knowledge of this very difficult genus of Moths. The drawings were executed from nature by Mrs. Cox.

Mr. G. R. Waterhouse exhibited a series of British species of *Rhizophagus* and *Monotoma*, genera of minute Xylophagous Beetles, and read a list of their names determined from the monographs of Erichson and Aubé.

The Secretary read some notes on Australian insects, communicated by Mr. Diggles; and a paper by Mr. A. R. Wallace, on the habits and transformations of a species of *Ornithoptera* (one of the grandest genera of Butterflies), allied to *O. Priamus*, found by him in the Aru Islands, near New Guinea.

Mr. Stambo read a paper on the aberrant species of minute Moths belonging to the genus *Elachista*.

Mr. F. Smith read an essay on the British species of Ants (*Formicidæ*), being a supplement to his paper recently published in the Society's Transactions. He also exhibited some specimens of a species of Bee belonging to the genus *Trigona*, from Moulmein, in India: and a portion of a nest of this species, the cells of which are formed of a mixture of resinous gums, which, when dissolved in wood oil, is said to be used in that part of India for the purpose of rendering cloth and other substances waterproof.

GATHERING PEARS.

Although winter is not the proper time for gathering Pears, it is the season when many young gardeners have most leisure time for reading; and a few hints on the subject may be useful to them. We have paid some attention to the

cultivation of Pears, from the old *Green Chisel* to the most approved new kinds; but can hardly agree with some writers who state, that all early, and most autumn Pears, should be gathered a week or two before they are ripe. Much, of course, depends on the difference in situation, or on the weather. In hot summers, like the last, gathering Pears a few days before they ripen is, perhaps, the only means to prevent early ones from being *mealy* and worthless. But, on the other hand, if that be done in a cold season, especially in some situations, the fruit will be apt to shrivel, and not come to proper maturity. This agrees with the fact, that early Pears are more likely to be *mealy* in the south of England than in the north: and less so in Scotland. Indeed, the same may be said of Pears growing in different situations in the same garden. In very hot summers, Pears on walls in south aspects, though large and fine, are often inferior in quality to smaller ones of the same kinds from dwarf standards.

Last season we gathered off a south wall some very fine fruit of the *Merveille d'Eté* (or Marvel of Summer), and *Williams's Bon Chrétien* Pears a few days before they were ripe, which were excellent; while the rest of the crop, which hung the full time, was worthless. But both kinds were good when gathered off dwarf standards at the usual time. As these two sorts are very apt to be *mealy* in hot seasons, they may serve as a guide for all such; and likewise show that much depends on the weather and situation, as already observed.

There are other sorts of autumn Pears that may hang the full time. Last season we had excellent *Gansel's Bergamots*, which dropped from the tree like Peaches; and we gathered none of the latter kinds until the stems of the fruit parted freely at the proper joints from the trees. We may mention, however, that some *Suzette de Bavay*, which were gathered by mistake at the end of October, were far inferior to the rest of the crop left on the tree till the end of November, even after the leaves were gone.

We trust enough has been said to show that the same rule for gathering Pears in a climate like Devon will not suit that of Ross-shire. This reminds us of the story of a gentleman, when on a visit to a friend in the Highlands, who happened to observe to the gardener that the climate could not be so bad, for he saw some good-looking fruit on a wall tree. The gardener said, "Hoot, mon, weel it may; for it has hung there twa seasons, and is hardly ripe yet." We hope this will give no offence to our northern friends; for we are aware that, in favourable seasons, good fruit is grown in the north of Scotland.—J. Wighton.

THE AMERICAN SQUASH.

Dr. Beck, of Ipswich, informs us that "the American Squash is certainly the best flavoured, and the most valuable of all the Vegetable Marrow tribe. Dr. Beck keeps them for use *all winter;* cutting them for that purpose when about four or five pounds in weight. Dr. Beck has long discontinued growing the *Artichaut d'Espagne*, or Pincussion Marrow; the flavour being inferior to that of the American Squash, in his opinion; and the necessity of getting seeds from Paris, as it does not ripen here, was another objection. It is, however, very pretty-looking on table."

[Here is the name by which this very superior Vegetable Marrow is known in the South of France. The Horticultural Society had it last summer; but I have not heard that they succeeded in tracing out its book-name. Some gardener, however, ripened seeds of it in England; but Dr. Beck says, it does not ripen seeds in this country; therefore, the kind which is in the hands of the Society may not be exactly the one I spoke of as being the best of all Vegetable Marrows. The varieties run as closely on each other as Radishes or Onions; so that one would need to taste, to make sure of a doubtful kind. I have said before now that Dr. Beck was the best amateur grower of Melons I ever knew; and I never knew a gardener who could approach him in his Melon frames, in which one could seldom pick up a bad leaf in a whole season; and he ought to be one of our best judges on the Gourd tribe, as he has been growing them and comparing them for the last twenty or thirty years. I called on him the last time in September, 1853; and he told me then the American Squash was the best of the "Marrows," according to his taste. I saw lots of it in his garden; and I think there were then nine or eleven lights of Melons in all stages, and the plants were in luxuriant health. He manages all his frames and vineries himself. I shall never forget his remark about sulphuring Grapes for the Vine disease. "If you cannot blow it off from among the berries, what is more wholesome to swallow than a little sulphur?" His Green-fleshed Melons have been noted about Ipswich for many years as very superior; but this superiority arises from his superior management of his plants. He uses no dung in his compost for Melons; he keeps air on the frames day and night from the middle of May; and the whole routine is more after nature than our common forcing.—D. Beaton.]

VARIEGATED TOM THUMB GERANIUMS.

In No. 478 of The Cottage Gardener, Mr. Fish, in speaking of scarlet Geranium *Tom Thumb*, says, he believes it is nothing else than a variegated *Tom Thumb*. In that he is perfectly correct. With your permission, it may not be altogether out of place to inform your numerous readers where and how it originated.

In the season of 1850, I was gardener at Foremark Hall, then the seat of Henry Allsopp, Esq. I had a few plants of *Tom Thumb* in a mixed border. A couple of shoots on one of the plants sported; I had them propagated, and the following season had several plants of the variety. They were again planted out; and one day, in the course of the season, two or three young men from a neighbouring place called to have a look round, and by some means managed to take some cuttings from those plants. They were, of course, carried home to a nobleman's place not many miles distant; and, through the medium of the then gardener, the variety got into the hands of Messrs. Osborne, of Fulham.—James Lessels, *gardener to Sir T. F. F. Boughey, Bart., Aqualate Hall, Newport, Salop.*

NEW AND RARE PLANTS.

Lupinus Menziesii (*Mr. Menzie's Lupin*).

A shrubby, Californian Lupin, with yellow flowers. Sent to Kew Gardens by Mr. Thompson, of Ipswich.—(*Botanical Magazine, t.* 5019.)

Eichornia tricolor (*Three-coloured Eichornia*).

It has also been called *Pontederia tricolor*. A Brazilian aquatic plant. Its flowers are purple, blue, and white.—(*Ibid. t.* 5020.)

Begonia laciniata (*Cut-leaved Begonia*).

A native of Silhet, Nepal, and Eastern Bengal. Flowers large, white, tinged with pink. The leaves beautifully variegated, with purple round the edge, and in the centre of the upper surface; the edge and veins on the under surface deep pink.—(*Ibid. t.* 5021).

Illairea canarinoides (*Canarina-like Illairea*).

Native of Central America, and introduced thence to Europe by M. Warszewicz. It is a hardy annual; "but is a very dangerous neighbour, one of the men in Kew Gardens having suffered severely, and for some weeks, from being accidentally stung by it." Flowers dull brick-colour, appearing in July and August. It belongs to the natural order Loaseæ.—(*Ibid. t.* 5022.)

Rubus nutans (*Shaggy-stemmed Raspberry*).

This decumbent species is a native of the Himalaya Mountains, at elevations of from 8,000 to 11,000 feet. It came from Mr. Low, of the Clapton Nursery; but when, or by whom, introduced is not known.—(*Ibid. t.* 5023).

Cypripedium Fairieanum (*Mr. Fairies' Lady's Slipper*).

Native of Assam. It is a most charming plant. Its beautifully-pencilled flowers appear in October, a flowering specimen being then sent to Kew by Mr. Parker, of the Hornsey Nursery.—(*Ibid. t.* 5024.)

MYRICA CALIFORNICA.

Raised from seeds collected by Hartweg in California; received at the Garden June 5th, 1848, and said to be collected in woods near Monterey; growing twelve feet high.

This was originally gathered by Menzies on the north-west coast of America. Douglas found it at Puget Sound. It forms an evergreen bush, with dense, narrow lanceolate, slightly serrated leaves; covered, especially on the under side, with transparent, glossy, saucer-shaped sunken scales, of microscopical dimensions, consisting of a layer of wedge-shaped cells, placed obliquely round a common centre. The flowers are green and inconspicuous, in short axillary spikes, which eventually bear from one to three small globular fruits, whose surface is closely studded with fleshy, oblong, obtuse grains of a dull red colour, and astringent flavour.

It is a hardy evergreen, growing freely in any good garden soil, increased by seeds or by layers, in the usual way. It flowers in July, and produces in September an abundance of its little granular fruits. In gardens it is an acquisition, being a hardy shrub, with fragrant leaves, and well suited for rockwork or for the front of a shubbery.—(*Horticultural Society's Journal.*)

NOTES FROM THE CONTINENT.—No. 16.

MOABIT.

When speaking of the garden of Herr Borsig (in No. 6), I promised to refer to it again on some future occasion; for this purpose I paid another visit to the garden in the latter part of September. I found the conservatory very gay with the crimson *Begonia diversifolia*, and with some plants of *Salvia splendens*, which had been grown out of doors, and lifted. There were also a few flowers remaining on some fine hybrid varieties of Gladiolus. They were, I believe, raised by M. Chuget, of Fontainebleau; the best were *Penelope*, salmon colour, with crimson throat and violet anthers; *Hebe*, flesh colour, with crimson stripe on the lower division of the perianth, and faint pencillings on the others; *Dr. Andry*, very distinct, but rather small, clear vermillion, and yellow; *M. Vinchow*, beautiful rosy pink; *Imperétrice*, almost white, with delicate violet stripes; *Leon Lèquay*, rather dull compared with the others, pink, with crimson stripes. Most of them had had from eighteen to twenty-four flowers on the spike. Several other sorts were quite out of bloom, and these had only a few blossoms open; but they were sufficient to show what the plants had been.

In the palm house, a plant of *Philodendron pertusum* had several ripe fruit upon it. They are about a foot long; and the hexagonal green plates, which cover the individual "pips," being removed, disclose a soft pulpy mass, tasting like the Banana fruit, but much sweeter, and more juicy. The green covering is acrid and blistering to the mouth; so that care must be taken as to the part eaten.

In a small hothouse were several new plants. *Aristolochia Thwaitesii*, very distinct from most others of the same genus; being a small shrub, and producing dense clusters of its curious flowers close to the surface of the soil. It flowers in spring. *Thunbergia Harrisii*, a strongly-growing climber, which, when allowed to ramble at will, freely produces its drooping racemes of blue flowers. A pretty little silver-veined plant called *Niphæa anechtochiliæfolia*, flowers small, white, with yellow stamens. *Nœgelia Geraldiana*, in habit very like *Gesnera zebrina*, with large leaves curiously mottled with light and dark green. It would be as well for my English readers to keep in mind that Nœgelia is the name often used on the continent for Gesneras of the *zebrina* division; and that they must be careful in buying plants of this sort, or they will only meet with an old acquaintance under a new name.

The Orchid house is in four divisions: the first, being the coolest, is reserved for plants in bloom; as they remain a much longer time in perfection here than in the other houses. Among them were a fine specimen of *Phalænopsis grandiflora*, and the small, but interesting, *P. rosea;* the lovely *Cattleya elegans; Vanda cœrulea*, with three long racemes of its delicate blue flowers; and *Warrea Lindeniana*, with its upright spikes of wax-like blossoms; but finest of all was a magnificent specimen of the best variety of *Cattleya Mossiæ*, with fifteen heads of flowers, nearly all open. These, with Miltonias, Oncidiums, Cypripediums, &c., were arranged most tastefully; with Ferns and Caladiums between them, and with some Stanhopeas and *Oncidium papilio* hanging above; the whole producing the effect of an enormous bouquet.

An ornamental sheet of water, near the lower end of the garden, was worth a journey of many miles to see; it was one mass of freely-flowering Nymphæas. The refuse hot water from the manufactory close by is conveyed into it by pipes, and keeps it at a genial temperature; which is, of course, of great service, particularly in spring. These Water Lilies were brought forward in the Victoria house in June, planted into

old baskets or packing-cases, and dropped into their present position, where, for four months, they have been flowering profusely. Some hybrids between *blanda*, *rubra*, and others, are found to bloom more continuously than the original species. I counted more than a hundred flowers *fully expanded;* they were of many colours—white, all shades of pink, crimson, and blue.—KARL.

LONICERA ANGUSTIFOLIA.

RAISED from seeds received from Captain William Munro, from the north of India.

A slender deciduous shrub, with narrow lanceolate ciliated leaves, and small pale yellow flowers, growing in pairs at the end of a slender drooping peduncle, shorter than the leaf to which it is axillary.

This plant grows about four or five feet high in any good garden soil, and is easily increased by cuttings. It flowers in April and May; and is not only a distinct, but rather neat-looking plant. Where a choice collection of hardy shrubs is grown it deserves a place.—(*Horticultural Society's Journal.*)

BEDROOM DECORATIONS.

IT is midnight. We suppose "IN STATU QUO" to be wrapped in the arms of Morpheus; but *our* eyes *wo'n't* shut. Does "I. S. Q." *always* sleep like a top? Does he *never* know what it is to roll in bed; and, at length, despairing of rest, resort to candle or lamp for companionship? If he does, on such a night he stares at the paper on the wall; he learns that pattern by heart: it is burnt into his brain—it dances—it whirls—but no relief is obtainable. Now, in such a position, surely "IN STATU QUO" would value a statu-ette and bouquet before him, of whose flowing lines, and varied tints and colours, the eye never tires.

"IN STATU QUO" rises early. As he dresses, his eyes rest on his "fly-traps;" his "ewer" raises its head erect from the "basin," the only relief to the uninteresting scene. He pulls up his blind—RAIN! RAIN! RAIN!

Poor "IN STATU QUO!" He loves Filices; but he gazes at the windows like a hungry boy at a pie-shop. The air is raw and miserable. He twirls his fingers, looks at his watch, re-arranges his spotless shirts, examines his case of "all-rounders;" and having immolated the captives in the "fly-traps," kills the time till breakfast. Now, had he a *few* of Nature's ornaments in his bedroom, he might be profitably occupying the time.

We do not want "I. S. Q." to turn "his basin into an aquarium," or "fill his drawers with rock-work;" but we *do* want him to introduce a little of nature for his eye to rest on in the intervals of dressing; and though we do not advocate the transmogrification of a bedroom into a "museum," we would provide musing materials for sleepless nights. Like the ant, "I. S. Q." is no sluggard; but, like it, let him, in his fair-weather walks, lay up a store of enjoyment for a season when life under cover is far more pleasing and enjoyable than life hydropathic.—E. A. COPLAND.

CROPS NEAR WORCESTER.

HAVING made a few remarks the other day touching the flower garden, I beg to trouble you with a few remarks on the fruit and vegetable portion of the garden; but, as there are but a very few vegetables consumed in the doctor's family, I shall only make mention of two. Cauliflowers have been very indifferent, not so much from the effects of the dry weather as their not coming true; yet I had the seed from an old-established firm (Wheeler, of Warminster), whose seeds previously have always been of the first order. I mention this, because, if others have had seeds from the same establishment, and find it different, the fault may be from some local cause; but with me it is a serious fault, it being one of the chief vegetables used.

Perhaps to say much on the Potato, after so much has been written at different times, may place it in the condition of Paddy's ale—which thickened as it cleared; therefore, I will be brief. Since the commencement of planting time, I have been particular in noticing the whole process of our neighbours, and I have had good opportunities for observation. I have seen the ground before planting; I have noted the mode of planting, and I have seen the crop taken off: and whatever other fortunate individuals may do or have done, I have never seen any of those valuable varieties that are exempt from the disease. Yet, I have gone to see some of them this year, during the time they were being dug up; but, somehow, they happened to fail this year for the first time! There are three ways of planting here (Worcester). First, by trenching them in, as the ground is dug; and according to my experience, this is the best way of planting, be the ground in whatever state it may. The other and the most general way, is to put them in with the hoe, after the manner of planting Peas or Wheat: a plan that may be excusable on dry sandy soil, but on no other. The last, and worst of all, is putting them in with the dibble or setting-stick, as some people call it. From what I have seen of this last way of planting this year, it has not paid for seed and labour: but where they were put in, in due time, and justice done to them throughout, there has been a remunerative crop. I have tried the different methods of planting myself this year, and found a sufficient difference here, independently of what I have seen besides, to convince anyone of the superiority of the trenching way of planting. The crop has been very good, and the Potatoes are very good in all the best-managed gardens in this neighbourhood.

With regard to fruit, Gooseberries were a very light crop indeed, yet most of our neighbours had an abundance. Currants, red, white, and black, very fine and good crops; the same with Raspberries and Strawberries. Of Pears and Cherries we never get a crop—we have a cold subsoil. Of Plums, we had a very light crop; the trees have not looked healthy all the summer. Of Peaches and Nectarines, we had a full crop without thinning; and they were never finer or better flavoured.

The trees were protected during the spring with Haythorn's hexagon extra netting. The garden being small, and surrounded with high Elm trees on each side, the sun is very scorching during the spring; and to keep down the red spider has been no easy matter. I have used the preparation you have so often recommended; but the vermin, being on the underside of the leaves, there was a difficulty in getting at them with the watering-pot. But two years ago, I hit upon a very easy and an expeditious method of dressing them with a vengeance. I got a small tub, and put about a common-sized water-pot of the preparation into it; then, with a hair-broom or brush that is used for house sweeping, having the tub by my side, and a pair of steps if needful, worked the brush after the manner of white-washing; and every leaf, and both sides of every leaf, was throughly dressed with it; and not a leaf was injured with the operation. Moreover, I have operated on them at various stages from the time the blossom dropped till the fruit had nearly done swelling. If the friend that complained about the over-dosing with the above preparation, will try the above plan another year, he will find the result more satisfactory.

I see some of your correspondents have complained about the *Wasps* during the past fruit season; now, we have never been more free from them—I had not a single fruit damaged by them. Perhaps the smell of the brimstone may have something to do in keeping wasps and flies away. Another evil also I have been exempt from, viz., the catterpillars on the Gooseberry and Currant trees. I have taken the advice given some time ago by your friend "Upwards and Onwards." I find generally they are hatched on the Red Currants first, and at a glance they can be seen; as, soon after they are hatched, the leaves appear punctured with little holes. So, by taking off the leaf, a whole batch is at once destroyed. And by this simple method I have saved myself a deal of trouble, as well as no inconsiderable amount of anxiety.—The Doctor's Boy.

HOME-MADE WINES.

It is somewhat fortunate that you are not unwilling to insert communications having anonymous signatures; for, though I, in common with many others of the public, like an article all the better for the writer being made known to us, yet there is no reason for disparaging ideas, opinions, or practical results, which may be offered by one unwilling for his name to be known to the world. Many of the most useful inventions of the present day, may be traced to ideas gleaned from anonymous writers; and when we consider that the bulk of young beginners are unwilling, at first, to be paraded before the reading public, it may be concluded that secrecy does not lessen the utility of an article. I, therefore, make a virtue of appearing before you in that character; and am, perhaps, the more induced to do so, as the subject I mean to treat upon, is one in direct variance with the operation of the Maine Liquor Law, which, I understand, some of our brethren seem anxious to try. But, as I am not a disciple of Father Matthew, nor yet a confirmed Bacchanalian, I venture to offer a few remarks on home-made wines, which, certainly, have not received that attention yet which they deserve.

In speaking of wines of a useful and palatable character, a very delicate subject is broached: for we have no mechanical test of their utility; and the human taste is so various, and, I might say, eccentric, that it is not likely anything getting the character of "home-made," will ever be regarded (whatever be its merits) as equal to a foreign production. Yet it is shown, from repeated exposures, that much of the so-called foreign wine is the produce of very questionable materials, collected together and manufactured in some of the narrow lanes and alleys which abound in the great metropolis, and other large towns. Until some very public exposure of this kind is made, it is much to be feared honest John Bull will still cling to his port, sherry, and *Champaigne*, with a pertinacity which he is pleased to say is one of the consistent features in his character. A good glass, after dinner, of good old wine, with old and respected friends around us, is all very well; but where is the man of moderate means to get this glass of good old wine? I fear the difficulty of his doing so, is increasing rather than otherwise. The mildew amongst the Grapes in foreign countries has injured them so much, as to give rise to the spurious imitations complained of. Better, therefore, than patronise such dishonesty, let a fair trial be made of what can be done at home, by making wines of such materials as are really known to be wholesome and nutritious.

In the first place, I must here confess, that sugar is the important body to which home-made wines owe much of their strength: but it is far from being the only thing useful; and, like everything else, it may be used to excess. Much, however, depends on the other things that are used in conjunction with it, and, also, the quality of the sugar itself; for a larger quantity of loaf sugar may be used than is required of moist, or coarse, sugar; and some of the syrups or mixtures to which it is added, require more than others do, to make them good. And though I am far from certain that the proportions I herewith give are the best that can be given, nevertheless, I venture to say that the produce generally has been very satisfactory. And, I need not say, that age improves all good wines very much; and, what is equally important to know, a large quantity is likely to turn out better than a small one; the fermentations and other things go on so much better.

Grape Wine.—A white *Sweetwater* or *Muscadine* Grape growing against the south side of a dwelling-house, will often produce a large quantity of fruit, from which excellent wine is made. Let the Grapes hang as long as is prudent; then take them off, strip the berries from the stalks into a large earthen jar or tub, measure them, and to every gallon of berries add from three to four quarts of pure rain water; let them stand about ten days, stirring them frequently; then strain off through a cloth, pressing the pulp well, and to every gallon of liquor put in four pounds of loaf sugar; put the liquor into a sweet, clean cask—one that has had spirits in it before is best. If it do not show symptoms of working the first day, put in a spoonful or two of yeast; but do not do this if it show symptoms of fermenting itself, as over-working is as bad as too little. If the quantity do not exceed thirty gallons, a week will be long enough to allow it to work; but a longer time may be allowed to a larger quantity: then bung it up, lightly at first, afterwards close, and leave the vent-peg open, and finally close that. If it be intended to draw it from the cask for use, the cask ought to stand on its end; but if intended to remain some time in cask, and to be bottled off, it may lie on its side. One thing, however, is important: do not disturb it for two years or more, as the lees, or sediment, is useful for it to feed upon. Trying it now and then to see how it is going on, is at best but indulging curiosity, and ought to be as little done as possible. At the end of two years it may be bottled, and a year after that will be fit to drink; and, I have no doubt, will be generally admired. Some put a little spirit to it; but if it be well made, it is better without it.

Plum Wine.—When ripe fruit of the dark-coloured varieties is plentiful, an excellent wine may be made by putting it into equal quantities of water as above; and after remaining a week or ten days, squeeze and strain it off, adding about four pounds of sugar to a gallon of this mixture. But, as there is considerably more fermentation n this, good moist sugar will do, more especially if *Damsons* be used; as the peculiar taste of moist sugar will not be felt over that of the fruit. This is, perhaps, the fullest of all our home-made wines; and when good, is generally esteemed. It is dark in colour, and has an aroma resembling port.

Raisin Wine.—This is the most fashionable wine; the materials being alike accessible to the citizen as to the gardener or farmer. The same process as above, only chopping or bruising the raisins before putting them into water, and adding much less sugar; only let that be good loaf. Some add a little ginger, but I like it better without. This wine is ready to drink sooner than most kinds, and is regarded very wholesome; more fit, perhaps, for the sick chamber, than half the foreign wines we are served with.

Apple Wine.—To every gallon of the best cider that can be had, where that beverage is making, add three pounds and a half of loaf sugar. Let it ferment a week or so, and bung up, as before recommended. This makes an excellent wine, which, like all others, improves by keeping. As, when it becomes old and mellow, it may easily be mistaken for something of foreign growth.

Small Fruits Wine.—This includes, Currants, Goose-

berries, Strawberries, &c., in a ripe condition; and they may be made separately, somewhat as above, or mixed in any proportion thought proper; but I would not advise that many Red or Black Currants be used; for, though they impart strength, they give an unpleasant flavour: at least, I think so. Strawberries are not so good as Gooseberries, neither are Raspberries; but a mixture of all kinds answers very well. These fruits being ripe in warm weather, they must not stand more than five or six days, at most, in the water, otherwise the syrup will acquire a sour taste, which fermentation will scarcely throw off.

Green Gooseberry Wine.—I am told this makes an excellent sparkling wine, equal to Champagne; but I have had no experience with it. It certainly deserves a trial; and some kind friend will, perhaps, give us the benefit of his experience in the matter.

Malt Wine.—As I ought to have confined myself to articles of garden production, I must apologise for introducing this, which is a wine made from sweetwort (to be obtained when brewing is going on), and sugar; adding water if the liquor be strong. The tunned beer is sometimes used, *i.e.*, the wort with the hops boiled in it, and yeast; but if too many hops are used, the bitter taste they give to the wine is difficult to remove. It is a nice, pleasant-tasting wine, differing from most others by its peculiar softness.

Berbery Wine.—This is made from the berries of the *Berberis aquifolium*, and kindred kinds; but it is more an article of novelty; and I cannot recommend it, though some like it. It is dark, like claret or elder wine.

Parsnip Wine.—This is a cheap wine; and the mode of making it has been so often given, that it is needless repeating it here; the more especially as I have had no experience in it, and cannot say that I admire it.

Rhubarb Wine, like the last, is indebted to the sugar for all its good qualities. Some parties, however, admire it; and Rhubarb jam is much sought after at times.

Elderberry Wine.—Were all our home-made wines as well known, and as well made, as some of our country friends manage this, we should be more independent of the foreigner than we now are for our drinks. I need not repeat here, that the berries ought to be ripe, and that moist sugar will do for them. The directions given for Grape will do here; only put a larger quantity of yeast in laying it on a piece of toasted bread, and letting it remain in the tub with the strained liquor twenty-four hours before barrelling it.

There are many other wines, of more or less merit, which are occasionally made from fruits. Mulberries, Brambleberries, and others, are all available that way; besides which, there are those of a kind of which sugar alone may be regarded the substance; but something else is added to give flavour, and usurps the name. Ginger, for instance, is one, with many others; but as all these are, more or less, secrets in the confectionery line, it is out of my province naming them here; and can only say, in conclusion, that with good casks, care, and attention, an excellent wine may be made at a cost not more than double that given, in a general way, for beer. And when we know that the materials are all pure and good, a relish is given which enhances the value of the article considerably; and now and then a secret smile of satisfaction may be obtained by a friend (no bad judge neither), praising the wine you treat him with as excellent sherry, which you knew came from the cask of grape, or raisin, or malt. And to those of humble means, who cannot afford to pay the very high prices now charged for good European wines, a good cask or two of home-made wine will be found very useful, and will be relished by a friend more than spirits and water, or the other drinks of a questionable character within reach. —X. X.

HOUSEKEEPING.

Orange Marmalade.—The juice of two dozen sweet oranges, and one dozen bitter oranges; the peels (rinds) of twelve sweet, and six bitter oranges; and five pounds and a half of sugar. Boil the rinds in two quarts of water, slowly, till reduced to one pint. This will take an hour and a half; and in this time the rinds will be soft. Mix the pint of rind-water with the orange-juice and sugar, and put it on the fire. Cut the rinds into chips; and when the syrup boils, add them, and boil slowly twenty minutes. Put the marmalade in small jars, tie *dry* paper over, and keep in a dry place.

Mem.—In paring the oranges leave a *little* white on the rinds. The syrup of this marmalade is quite clear, and thick and the receipt is much liked.

Preserved Rhubarb.—Cut the rhubarb as for tarts, and to every quart give one pound of good moist sugar. Put the sugar over the rhubarb, and leave it twenty-four hours, to draw out the juice. The sugar sinks, but is not dissolved. Boil the juice and sugar together for twenty minutes. After it begins to boil fast at the edge of the pan, add the rhubarb, and boil it slowly twenty minutes longer. By this way of doing the preserve, the pieces of rhubarb remain separate from each other. No need to stir the syrup, or preserve, if slowly boiled. The rhubarb and sugar do not require a warm place to draw out the juice.

Mem.—This preserve keeps well in a dry place.

Irish Moss Ale.—Take one ounce of Irish moss, one ounce of hops, one ounce of ginger, one ounce of Spanish juice, one pound of sugar, and ten quarts of water. Boil the moss and other things for fifteen minutes with five quarts of water; then strain, and boil the liquor fifteen minutes longer with the other five quarts of water. When cool enough to work, add a table-spoonful of yeast. Leave it about twelve hours; then take off the yeast, and the ale may be bottled, or put in a barrel. It keeps well for several weeks in a cool place; and if well made up, is nearly as ripe as gingerbeer. This quantity gives a small basinful of yeast that does well for bread. The ale has been found strengthening, as well as a useful substitute for malt ale.

VEGETABLE CULTURE AND COOKERY.

(*Continued from page* 59.)

CHOU DE MILAN.

Chou de Milan, Milan Kale, or Milan Cabbage, is a winter green, and one of the best in cultivation. It comes into use late in the spring, when the crowns and the long side-shoots form one of the most tender and delicate dishes of the kind which can possibly be conceived.

The seed is sown broadcast in the end of April, as directed for Broccoli; and when the plants are three inches high, they are to be pricked out four inches asunder. At the end of June, and in July, these are to be transplanted on a piece of well-manured ground, where they are to remain; but they will require more space than Broccoli or Cabbage. The rows should not be more than three feet apart, and the plants the same distance in the rows. As they grow, they are to be earthed up with a hoe on both sides to keep them firm in the ground. In spring, before the side-shoots are developed, the tops may be cut off and used; and when the young shoots are three, four, or six inches long, they furnish one of the most delicate dishes of all the Borecole tribe.

CLARY.

This is now very little used in British gardens. It is a medicinal herb; and is also used in soups, as it communicates a high and an agreeable scent. The seed is sown in the latter end of March or the beginning of April, broadcast, on common garden soil, and raked in. When the plants are up, thin them; and when three inches high, plant them out in rows two feet apart, and the plants eighteen inches in the rows. All the attention requisite is to keep them free from weeds. When the leaves are fully developed, they may be gathered all through summer, autumn, and winter.

Clary Wine.—Pick and chop small, twenty-four pounds of Malaga raisins, and put them into a tub, allowing to each pound a quart of water. Let them steep twelve days, stirring them twice every twenty-four hours, taking care to keep the liquor well covered; then strain it off, and put it into a clean cask, with about half a peck of the tops of Clary while in blossom; afterwards close it well for six weeks, and bottle it off. In two months it will be fit for use. As the sediment will be considerable, tap it pretty high. Or, take ten gallons of water, twenty-five pounds of sugar, a pint of lemon juice, half a pint of the juice of Seville oranges, and the whites of twelve eggs well beaten; set the whole over the fire, and let

it boil gently for half an hour, skimming it clear all the time; then put it into a tub; and when nearly cool, put it into a cask, with about half a peck of Clary tops and a pint of new yeast. Stir it thrice a day; and when it has done working, close it up. If fine at the end of three or four months, bottle it off.

Clary Pancakes.—Take three eggs, three spoonfuls of fine flour, and a little salt; beat them well together, and mix them with a pint of milk. Put lard into your pan; and when it is hot, pour in your batter as thin as possible: then lay in some Clary leaves washed and dried, and pour a little more thin batter over them. Fry them a nice brown, and serve them up hot.

COLEWORT.

This is also called Collet and Collard. Any sort of hardy early Cabbage may be used for Coleworts. Formerly, a distinct variety of the Cabbage tribe, called *Dorsetshire Kale*, was employed for this purpose; but it being tough and hard, its cultivation is now discontinued. Coleworts are young, open Cabbages, without hearts, and are generally used as a winter green in autumn, winter, and spring. The same directions for sowing and management as are given for Cabbage are applicable in this instance. The seed is sown in the middle of July and early in August; the one for the autumn and early winter, and the latter for late winter and spring. When the plants are up and three inches high thin out the strongest, and prick them out on another bed. In September the July sown plants may be transplanted in rows where they are to remain; and in October those sown in August should always be transplanted in rows a foot apart, and eight or ten inches in distance in the rows. The plants for the late winter and spring crops may be taken from the Cabbage-seed beds sown in August, as was directed under Cabbage; and this will save another sowing on purpose for Coleworts and Cabbages: every alternate plant being drawn for Coleworts, and the other left to Cabbage in spring and early summer.

CORIANDER.

The leaves of this are used both in salad and in soups for their high and peculiar aromatic flavour. The seeds are used medicinally, and are considered soothing and stomachic. They are also sold by confectioners encrusted with sugar. If required early, the seed is to be sown thinly on a hotbed in February or March; and when three inches high, the plants are ready for use. As they will soon run to seed, another sowing must be made in April for a succession. This may be done in an open, warm situation, in drills six inches apart, an inch deep, then covered over with light earth with a rake. When the leaves are three or four inches high, they are to be gathered for use by cutting them off close to the ground. To have a supply all the summer, a little should be sown every month, as it soon runs to seed. For winter use, it is to be sown in August and September on a warm border; and when cold weather sets in, the plants must be hooped over and protected.

Coriander Cordial.—For three gallons take seven quarts of spirits, two pounds of coriander seeds, one ounce of caraway seeds, six drops of the oil of orange, and two pounds of sugar. Fill up with water. The coriander and caraway seeds must be bruised, and steeped in the spirits for ten or twelve days, and well stirred two or three times a day; and in other respects, observe the rules for Peppermint.

CORN SALAD.

This is also called *Lamb's Lettuce;* and is a small winter salad plant, which is used as winter Lettuce; but, being hardy, is a more safe crop. The seed is sown in the end of August or the beginning of September, either broadcast, or in rows six inches apart. In either case, when large enough, they are to be thinned to three inches distance. When four inches high, they may be drawn for use, leaving the smaller ones to increase in growth. In February or March, another sowing may be made to come into use in April or May; and if required to have a succession during the summer, a small portion should be sown every month. This plant is what is called *mâche* by the French.

COUVE TRONCHUDA.

This is also called Portuguese Cabbage, and is cultivated for the ribs of its leaves, which are used as sea-kale. The seed should be sown like ordinary Cabbage in the end of March and the beginning of April; and when large enough planted.

(To be continued).

THE LAWS OF COLOURS.

[So little has been written on this subject applicable to the arrangement of flowers in gardens; and of that little, so much less has been written correctly, that we are well pleased to extract the following from the *Literary Gazette*. We have in our early volumes some able comments on the subject by "Vibgyor," a man of science in the north; but the following is condensed from a lecture delivered by Mr. F. Crace Calvert at the Royal Institution.]

"Mr. Crace Calvert stated that he had three objects in view in this discourse. The first was to make known the laws of colours, as discovered by his learned master, M. Chevreul; secondly, to explain their importance in a scientific point of view; and, thirdly, their value to arts and manufactures. To understand the laws of colours, it is necessary to know the composition of light. Newton was the first person who gave to the world any statement relative to the components of light, which he said consisted of seven colours—red, orange, yellow, green, blue, indigo, and violet. It is now distinctly proved that four of those seven colours of the spectrum are the result of the combinations of the three colours now known as the primitive colours, viz., red, blue, and yellow. Thus, blue and red combined produce purple or indigo; blue and yellow, green; while red and yellow produce orange. These, facts being known, it is easy to prove that there are not seven, but three primitive and four secondary, called complementary colours. Several proofs can be given that light is composed of three colours only. One of the most simple consists in placing pieces of blue, red, and yellow papers on a circular disc, and rotating it rapidly, the effect to the eye being to produce a disc of white light. If, therefore, the eye can be deceived so readily while the disc travels at so slow a rate, what must necessarily be the case when it is remembered that light proceeds at the rate of 190,000 miles per second? The rapidity with which light travels is such, that the eye is not able to perceive either the blue, red, or yellow, the nerves of the retina not being sensitive enough to receive and convey successively to the mind the three or seven colours of which the light is composed. Before entering into the laws of colour, Mr. Crace Calvert stated that it might be interesting to know that scientific minds had devoted attention to the laws of colours. Buffon followed Newton; and his researches had special reference to what M. Chevreul had called the 'successive contrasts' of colours. Father Scherffer, a monk, also wrote on the laws of colour. Goëthe, the poet, also brought his mind to bear upon the subject, and studied it to a great extent. Count Rumford, about the end of the 18th century, published several memoirs on the laws of colours. He explained very satisfactorily the 'successive' contrasts, and arrived at some insight into the 'simultaneous' one; still he did not lay down its real laws. Prieur, Leblanc, Harris, and Field were also writers of most interesting works on this subject. The reason that they did not arrive at the definite laws of colour was, because they had not divided those laws into successive, simultaneous, and mixed contrasts. These form the basis of the practical laws of colour; and the honour of their discovery is due to M. Chevreul. The reason why a surface appears white or brilliant is, that a large portion of the light which falls on its surface is reflected on the retina, and in such a quantity as gives to the surface a brilliant aspect; whilst in plain white surfaces, the rays of light being diffused in all directions, and a small portion only arriving to the eye, the surface does not appear brilliant. The influence of colour on these two kinds of surfaces is very different, as may be perceived by the examples round the room, showing the influence of different colours on gold ornaments. When rays of light, instead of being reflected, are absorbed by a surface or substance it appears black; therefore, white and black are not colours, as they are due to the reflection or absorption of undecomposed light. It is easy to understand why a surface appears blue. It is due to the property which the surface has to reflect only blue rays, whilst it absorbs

the yellow and red rays; and if a certain portion of light be reflected with one of the coloured rays, it will decrease its intensity; thus red rays with white ones produce pink. On the contrary, if a quantity of undecomposed light be absorbed, black is produced; which, by tarnishing the colour, and making it appear darker, generates dark reds, blues, or yellows. The secondary colours are produced by one of the primitive colours being absorbed and the two others reflected; for example, if red be absorbed, and blue and yellow reflected, the surface appears green. There are two reasons why a perfect blue, yellow, or red, &c., cannot be seen. The first is, that surfaces cannot entirely absorb one or two rays and reflect the others. The second is, that when the retina receives the impression of one colour, immediately its complementary colour is generated. Thus, if a blue circle be placed on a perfectly grey surface, an orange hue will be perceived round it; if an orange circle, round it will be noticed a bluish tint; if a red circle, a green; if a greenish yellow circle, a violet; if an orange yellow circle, an indigo; and so on. The 'successive' contrast has long been known; and it consists in the fact that on looking steadfastly for a few minutes on a red surface fixed on a white sheet of paper, and then carrying the eye to another white sheet, there will be perceived on it not a red, but a green one; if green, red; if purple, yellow; if blue, orange. The 'simultaneous' contrast is the most interesting and useful to be acquainted with. When two coloured surfaces are in juxtaposition, they mutually influence each other—favourably, if harmonising colours; or in a contrary manner if discordant; and in such proportion in either case as to be in exact ratio with the quantity of complementary colour which is generated in the eye. For example, if two half sheets of plain tinted paper, one dark-green, the other of a brilliant red, are placed side by side on a grey piece of cloth, the colours will be mutually improved, in consequence of the green generated by the red surface adding itself to the green of the juxtaposed surface, thus increasing its intensity; the green in its turn augmenting the beauty of the red. This effect can easily be appreciated if two other pieces of paper of the same colours are placed at a short distance from the corresponding influenced ones, as below:—

Red. Red Green. Green.

It is not sufficient, merely to place complementary colours side by side to produce harmony of colour, since the respective intensities have a most decided influence. Thus, pink and light green agree; red and dark green also; but light green and dark red, pink and dark green do not; and thus, to obtain the maximum of effect and perfect harmony, the following colours must be placed side by side, taking into account their exact intensity of shade and tint.

Harmonising Colours.

Primitive Colours.	Complementary Colours.		
Red	Green	Light blue, Yellow, Red	White Light.
Blue	Orange	Red, Yellow, Blue	White Light.
Yellow orange	Indigo	Blue, Red, Yellow	White Light.
Greenish yellow	Violet	Red, Blue, Yellow	White Light.
Black	White	Yellow, Blue, Red	White Light.

If attention be not paid to the arrangement of colours according to the above diagram, instead of their mutually improving each other, they will, on the contrary, lose beauty. Thus, if blue and purple be placed side by side, the blue, throwing its complementary colour, orange, upon the purple, will give it a faded appearance; and the blue, receiving the orange yellow of the purple, will assume a greenish tinge. The same may be said of yellow and red, if placed in juxtaposition. The red, by throwing its complementary colour, —green—on the yellow, communicates to it a greenish tinge; the yellow, by throwing its purple hue, imparts to the red a disagreeable purple appearance. The very great importance of these principles to every one who intends to display or arrange coloured goods or fabrics was convincingly shown by Mr. Crace Calvert, from a great variety of embroidered silks (kindly lent by Mr. Henry Houldsworth), calicos, and paper hangings; which demonstrated, that if these laws are neglected, not only will the labour and talent expended by the manufacturer to produce on a given piece of goods the greatest effect possible be neutralised, but perhaps lost. It was clearly demonstrated that these effects are not only produced by highly-coloured surfaces, but also by those whose colours are exceedingly pale; as, for example, light greens, or light blues with buffs, and that even in grey surfaces, as pencil drawings, the contrast of tone between two shades was distinctly visible. The contrast of tone or tint was most marked when two tints of the same colour were juxtaposed: and it was, therefore, the interest of an artist to pay attention to this principle when employing two tints of the same scale of colour. From the 'mixed contrast' arises the rule that a brilliant colour should never be looked at for any length of time, if its true tint or brilliancy is to be appreciated; for if a piece of red cloth be looked at for a few minutes, green, its complementary colour, is generated in the eye; and, adding itself to a portion of the red, produces black, which tarnishes the beauty of the red. This contrast explains, too, why the tone of a colour is modified, either favourably or otherwise, according to the colour which the eye has previously looked at: favourably, when, for instance, the eye first looks at a yellow surface, and then to a purple one; and unfavourably when it looks at a blue, and then at a purple. Mr. Crace Calvert also showed that black and white surfaces assume different hues according to the colours placed in juxtaposition with them. For example, black acquires an orange or purple tint if the colours placed beside it are blue or orange; but these effects can be overcome, in the case of these or any colours, by giving to the influenced colour a tint similar to that influencing it. Thus, to prevent black becoming orange by its contact with blue, it is merely necessary that the black should be blued; and in such proportion, that the amount of blue will neutralise the orange thrown on it by influence, thus producing black. As an instance, to prevent a grey design acquiring a pinkish shade through working it with green, give the grey a greenish hue, which, by neutralising the pink, will generate white light, and thus preserve the grey. Mr. Crace Calvert, after explaining the chromatic table of M. Chevreul, which enabled any person at a glance to ascertain what was the complementary colour of any of the 13,480 colours which M. Chevreul had distinctly classed in his table, stated that it was of the highest importance to artists to be acquainted with these laws in order to know at once the exact colour, shade and tint, which would produce the greatest effect when placed beside another colour; and that they could save the great amount of time which, no doubt, the great masters lost in ascertaining by experiment those laws, which they could now learn in a few hours by consulting M. Chevreul's work."

BEE-KEEPING.

PECULIARITIES IN AMERICAN FLOOR-BOARDS—PROPOSED PUBLICATION OF LIST OF BEE BOOKS.

There are some very remarkable modifications of the ordinary floor-board used in the States that I do not recollect having seen described in any English work, and which I think will be interesting to most bee-keepers. I may premise that wooden hives are largely employed; sometimes resting on the floor-board, as is customary in this country, and in other cases suspended by the sides, and having the floor-board attached by hooks and staples. In the cases where the hive rests on the board, the latter is sloped or chamfered away from the centre on all sides, so as to permit any internal moisture to drain away readily. The boxes have at each corner a small iron leg three-eighths of an inch long, by which they are raised that distance from the floor-board on every side. The hive, in fact, is open below all round; four holes are sunk in the floor in such places that, by shifting the hive an inch or less, the short iron legs are received into them; and then the hive rests on the board in the ordinary manner, having only the usual opening in front.

The advantage which this arrangement is supposed to yield is protection from the attacks of a species of Wax Moth, or Miller, as it is termed in the States. As the grub

of this animal almost always spins its cocoon in the broken wax collected in the angles between the hive and the board, it is prevented from so doing by this plan, as it is obvious that all broken wax will fall out. Judging by the various transatlantic works on bees that I have read, the Wax Moth is infinitely more destructive to the prosperity of hives in America than in this country.

I have had no experience in the working of this plan, and, therefore, practically can say nothing for or against it; but it appears to me that robbing would be greatly facilitated by the arrangement: and where wasps are numerous, as in the New Forest, I think the hives would be soon destroyed, as it appears to me impossible that the bees could defend the entrance all round.

In the suspended hives, the floor is attached at the same distance by small hooks and eyes; and the bottom, instead of being horizontal, is sloping, the boxes being made an inch deeper in front than behind.

In all cases, the floor-board is brought close to the hive during winter, and again separated from it at the commencement of the warm weather the following season.

I wish it to be distinctly understood that I am neither advocating nor denouncing the plan, but merely describing it for the information of those who may be interested in such matters.

My account of this subject has been chiefly extracted from Miner's "American Bee-Keeper's Manual," 12mo., 350 pages, 1849—a work which, along with a great amount of offensive assumption of superior knowledge, contains a very considerable share of valuable information concerning the construction of hives and bee-houses on American plans. The engraving of a house was extracted from this work in our seventh volume, page 294. Into any further description of the plans, &c., laid down I do not now propose to enter, inasmuch as I am preparing a descriptive chronological catalogue of all the books that have been written on bees for THE COTTAGE GARDENER. I may mention, that several of the London booksellers have orders to obtain for me any books on bees; consequently I sometimes get duplicate copies. I have two of Miner; and should they be of interest to any of my readers, I should be willing to forward one on receipt of forty-eight postage stamps.

Should any of the readers of THE COTTAGE GARDENER have on hand old works on bees, I should esteem it a favour if they would allow me the perusal or the purchase; as there are some which are not in my bee library, although it is tolerably extensive, and to which I cannot readily gain access.—W. B. TEGETMEIER, *Tottenham.*

TO CORRESPONDENTS.

WHITE GERANIUM WITH VARIEGATED LEAF.—"I beg to give you a short account of a variegated Geranium I have, which I think is quite distinct, as I have never met with it anywhere—viz., a variegated Geranium with white flowers. As the variegated Geraniums are largely grown for bedding purposes, and most deservedly so; but most of them being valued for their foliage only, as in many sorts the flowers are constantly required to be cut off; I have one that does not require that constant attention. It is a variegated-leafed one, with white flowers; the leaves nearly as much variegated, if not quite, as the *Manglesii* Geranium; the flowers as white as those of Geranium *Hendersonii*, the habit of which it very much approaches. I have not at present used it for bedding, for a very good reason—I have not got stock of it; but hope to be able next season to give it a trial. Then I will give you an account of the appearance it makes in the flower garden."—EDWARD R. CARPENTER, *The Gardens, Barr Hall, near Birmingham.*

SEEDS FOR ABROAD (*A Constant Reader*).—We make it a rule never to recommend seedsmen. Select from among those who advertise in our columns. Any of them will supply you well.

PLANTING POTATOES IN NOVEMBER (*H. Fox*).—Every reader must exercise his judgment upon our recommendations. When we recommend planting Potatoes in November, it is for ordinary seasons, and the average of counties of England. For Devonshire, where you live, and on the south coast, December in any year would be early enough for planting Potatoes; and in such a mild season as this is, quite the end of the month should be preferred. We planted this year, in December, in Hampshire. Your Potatoes appearing above ground had better be earthed over.

FRUIT TREES ON CLAY SUBSOIL (*J. H. C.*).—Make stations, or mounds, upon the surface of your garden, as frequently recommended by Mr. Errington. Plant the trees upon them, cutting away any descending roots; and training out the lateral roots regularly all round, and near the surface. Keep that surface mulched and undug. By this means the roots will be induced to remain near the surface. If you destroy the surface-roots by digging, others will be formed deeper in the soil; and these getting into the clay, will induce canker.

FILBERTS UNFRUITFUL (*L. S. G.*).—Remove every second tree: even eight feet apart is too close. Cut the branches off from those which remain, and keep the shoots shortened which will be produced next year. Filberts allowed to grow twelve feet high, are never productive. Buy our "Fruit Gardening for the Many;" you will there find directions for future years' proceedings.

CHRYSANTHEMUMS BARE-STEMMED (*J. S. V.*)—They are gross feeders, and can scarcely be kept too moist. The leaves fell and turned brown from lacking moisture. Liquid manure, and water in abundance, would have prevented the evil.

HEATING BY HOT WATER (*Melon Pit*).—We quite agree with you, that your plan is a very simple one. We can also well imagine how, when a greenhouse is heated by a flue, a small pit in its neighbourhood might be so heated by your iron pipes placed in the furnace. And several instances have occurred, where, if our memory serve us, such a mode of heating has been resorted to. In Perkin's system, what might be termed the boiler was a coil of small pipes, but altogether presenting a large surface to the fire. In Weeks' system, the pipes stand in and above the fire; but there, likewise, a great surface is exposed to the action of the fire. We have actually come to believe, that the best, the least expensive boilers, are those which, in proportion to the water they contain, present the largest surface to the action of the fire. Your inch-pipes, for their size, give a good surface; but then you have only two of them joined together in your furnace, furnishing altogether some eight or ten feet of one-inch pipe as your heating medium. That you heat your water, and make it reach near the boiling point, we can well believe; but that it costs little for fuel we can scarcely see; as we would be inclined to think, that there being nothing said of a flue, more heat by various modes would help to heat the external atmosphere, than what could be absorbed by your two small pipes. With our present lights—except merely as an accessory—we can see no improvement in any respect in your system. As an accessory, it would often be useful.

PRUNING IPOMÆA LEARII (*T. S.*).—The Ipomæa Learii is one of the best conservatory climbers; but it will be apt to suffer, if the average temperature at night in winter be long below 45°; and especially if the main stem be near the glass of the roof, where it would be most quickly cooled by radiation in a frosty night. If the plant consist of one main strong stem of the length of which you speak, with flowering shoots coming from that main stem all the way, then each of these shoots may be pruned back now to within three or four joints or buds from the main stem. In spring, after winter is past, you may prune back to one or two buds; as it is from the shoots produced in summer from these buds that the flowering takes place. If the plant be not furnished with a stout main stem, it would be advisable merely to partly prune now and again in spring. Prune in such a manner as to leave a sufficient amount of buds to produce shoots regularly all over the plant; say, to procure a stout shoot, every fifteen or eighteen inches: and these will look best if allowed to grow downwards as danglers from the main stem and rafters. If your house be kept cool in winter, it would be advisable to suspend the main stem two or three feet from the glass.

TRANSPLANTING ARAUCARIAS—CONIFER CUTTINGS (*A Friend*).—From the 1st to the middle of September is the best time to transplant young and old Araucarias and Deodars; but, like all evergreens, they may be removed with balls any day in the year when the ground is not much frozen. The middle of September is the best time to put in cuttings of all Conifers and other evergreens, including Camellias, which take a long time to root: but Deodars and Araucarias are now so plentiful and cheap, that one could hardly earn his salt in rearing them from cuttings, although the process is cheap and safe enough. They root best in pure sand; and the moment roots come, they should find very sandy loam to take hold of. Therefore, put an inch of sand over a sandy loam in the pots; and plant the cuttings, not quite one inch deep.

ROCKERY WATER BASIN—MOVING FERNS (*Kate*).—The best and cheapest way of having a water-tight basin in a rockery, is to build it with bricks in cement, and to plaster the inside of it with best Roman cement. Then to build the rock-work round it, to form the lowest side into a valley, and to get the waste water to run there, or to stand in pools, or lakes, or lochs; and to plant marsh plants, and water reeds to shelter and shade smaller kinds along the banks. Nothing is more easy, than to remove the most of our Ferns in mild weather, from September to the middle or end of March; take good balls with them, and observe how they grow: but naturally some are on dry banks, some in deep sandy loam, some in very dry exposed places, and some the contrary. No guide is better than Nature in Fern culture.

NAMES OF PLANTS.—*Kate's* plants are as follows:—1. *Asplenium Adiantum-nigrum.* 2. *Scolopendrium vulgare.* 3. *Polystichum aculeatum.* 4. *Lastrea* we think an imperfect bit taken from a plant of *dilatata.* 5. *Polypodium vulgare.* 6. *Asplenium Trichomanes.* 7. The Geranium is the old prickly-stalked Geranium, or the *Pelargonium echinatum.* (*Troublesome*).—Your plant is the *Aloe verrucosa*, or, as it is commonly called, the *Warted Aloe.*

HARDY HERBACEOUS PLANTS (*Rustic Robin*).—We will endeavour to meet your wishes.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

DECEMBER 30th and 31st. BURNLEY and EAST LANCASHIRE. Entries close December 1st. *Secs.*, Mr. Angus Sutherland and Mr. Ralph Landless.

JANUARY 1st, 1858. PAISLEY. Poultry, Pigeons, and Fancy Birds. *Sec.*, Mr. W. Houston, 14, Barr Street, Paisley.

JANUARY 4th, 1858. KIRKCALDY. Poultry and Fancy Bird Show. *Sec.*, Mr. Bonthron, jun., Thistle Street.

JANUARY 9th, 11th, 12th and 13th, 1858. CRYSTAL PALACE. *Sec.*, Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th, 1858. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs. Entries close Dec. 19th.
FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.
FEBRUARY 10th and 11th. ULVERSTONE. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

THE PAST YEAR'S DOINGS.

WE have now to take a review of the past year as connected with the poultry movement. There have been many and great changes; some Shows have fallen, others have risen. An entirely new system has been tried in some places, viz., to increase the charges for entry, and to augment the prizes. Like many first attempts, they have not all succeeded. It may have been that the summer is not a favourable time; or, that Shows for chickens only are difficult to fill; or, that too much was attempted at first. Either one, or all of these causes together, operated against them. It is more than probable, that the experience gained at Gloucester and Worcester, will bear good fruit at some future time. We believe the latter paid all its expenses, but the former was notoriously a great loss to its projector.

The Crystal Palace has had two successful Shows during the year. It is now well established, and in high favour with the public. It is so deservedly.

Liverpool had, as usual, a well-conducted and prosperous Exhibition. The gentlemen forming the Committee at this place, are enterprising, and experienced. A new class was opened here last January, of which we shall have to speak hereafter.

The Royal Agricultural Society's Show, at Salisbury, was good in quality, but not numerous. There were restrictions that acted against exhibitors. These should be removed; and, we shall hope to see the numbers of entries considerably increased, and this Show taking the position it ought to occupy.

Birmingham has this year surpassed itself, and remains "the Show of Shows."

Scotland, Ireland, and Wales, are all increasing the number of their exhibitions; and poultry is becoming a necessity at all agricultural meetings. The only disputed point on which we will touch, is the question, whether it be better for a Show to have many prizes, or a smaller number of greater value. This has been frequently discussed in our columns. We think it is difficult to lay down any rule of general application. Where numerous entries are sought, it is plain that the object is more likely to be attained by a large number of prizes; but where a few only are required, and those of the highest class, we think valuable prizes and high entries will be found to succeed. There has never been a year since the institution of Poultry Shows, when the chief prizes have been so scattered about, as in 1857.

Coloured Dorkings have improved, although we last year doubted whether it were possible. They have increased in size, without apparently sacrificing any point to do so. They have continued to supply the most numerous class to every exhibition. New names have not been wanting among the successful; but the great prize of the year, the Birmingham piece of Plate, went to an old and successful exhibitor, Captain Hornby.

The *Spanish* have continued favourites; and, although as a class, they have improved, yet we not think we have seen any pens so good as those Mr. Davies showed two years since. It is a work of time for anyone to get *perfect* Spanish fowls. Here, again, new names appeared successfully; and Mr. Fowler, of Aylesbury, took the Bingley Hall Plate.

Polands have greatly improved, especially the Golden-spangled. Clear tails were last year insisted upon; they have been produced in many cases, and we expect they will be general in 1860. Mr. Greenall, of Grappenhall, had all the success at the Birmingham Show.

The Golden and Silver-pencilled *Hamburghs* are perfect. In the former, the prizes have travelled everywhere; but, wherever he has shown, those for the latter have gone to Mr. Archer, of Malvern. This gentleman's success at Bingley Hall has not, we think, ever been equalled.

Game Fowls, as usual, have, throughout the year, been living lessons to all exhibitors in beauty of plumage and condition. The prizes have been sown broadcast. We have a pleasing recollection of the discussion on these birds in the early part of the year by some amateurs, who brought not only knowledge, but good temper, to bear on their peculiar "penchants."

The *Cochins* cannot be said to have improved; but they have made progress as compared with the last two or three years; and we have seen birds that would not have disgraced their former high estate. We may speak of the Grouse and Partridge in terms of the highest praise; the White showed better as chickens, than they have as adults: but the Black make no progress; and unless their admirers will bestir themselves, Committees cannot be expected to continue a class that always entails a loss.

Spangled Hamburghs are fast becoming perfect; and the deficiencies and defects that were pointed out in 1856, have been remedied in 1857. These birds show what can be done by careful breeding.

White Dorkings are evidently gaining that size which they have hitherto lacked.

The *Brahma Pootras* have shown good birds; but the old class at Birmingham disappointed their admirers.

Good *Gold-laced Bantams* have been shown everywhere, and we think they have been better than they were last year; but unless pains be taken with the *Silvers*, they will disappear; all those exhibited under that name, are nearly yellow, and lack that beautiful colour of frosted silver, which should be the ground of their plumage.

The *Game Bantams* have increased in numbers and in merit. No one who saw the display of them at Birmingham, will easily forget it; and we may look for every shade and colour of the Game Fowl in these, their diminutive brethren.

There must be a limit to all things; and this will, perhaps, explain why there has been no increase in the weight of *Geese* and *Ducks*. But let us not be thought to speak disparagingly of these classes. Taking the year throughout, we think the Aylesbury Ducks have not been so heavy as in 1856. The heaviest of the Rouens are almost always faulty in some particular. No one now attains the weight that was common formerly with Mr. H. Worrall.

The *Turkeys* have been unusually good; and the weights attained by the grey birds have been very great. Take, for instance, the three prize-birds at Birmingham—63 lbs. This would be good for three cocks; but those who know the difficulty of getting heavy hens will appreciate such a pen.

We have thus endeavoured to sketch the progress of each breed, and any remarkable success in any class.

That the poultry movement has been productive of good no one can deny; neither can it be disputed that one great object has been attained. In every class the breed of domestic poultry has been improved. Each is thoroughly understood; and any information on any point can be immediately obtained. No inconsiderable amount of food has been added to the common stock. It has afforded a delightful pastime to thousands; and a spur of innocent excitement and competition to many who are excluded, for various reasons, from others that require strength, activity, and money to enjoy them.

It has been a prosperous poultry year; and the prospects of the pursuit were never brighter. With gratitude we say it has been prosperous with us.

When the year closes, and the new one is about to spring into being, there is always a feeling of hope, even in the loaded heart. What shall it then be with us? Shall we not persevere in that which has brought us so much pleasure, in that which we believe to be a positive good, and in which we are supported by so many and such kind friends, subscribers, and contributors? We will start in our new year more than ever anxious to deserve the kindly support afforded to us. We will endeavour to extend our usefulness; and we promise a continuance of that impartiality which it is our pride and our endeavour to evince on all occasions.

This is our profession of purposings; and with it we draw to the close of our address.

There may have been some angry feelings during the past year; some little unkindnesses may rankle; envy may still exist. Friends! forget them all. Let them sink with the dying year into the grave of time, there to sleep for ever. You will be gainers by it: and we feel that by this counsel

we are doing the best we can to carry out our own wishes, which we heartily repeat, ending as we began, by sincerely saying—

A Happy New Year to All!

NOTTINGHAMSHIRE POULTRY ASSOCIATION.

(*From a Correspondent.*)

The fifth annual Exhibition of Poultry was held at Southwell, on Wednesday and Thursday, December 16th and 17th. Mr. George Lowe, of Fazeley, Tamworth, was the Judge on the occasion. In *Spanish*, Mr. Strange was very successful, taking first prize in the old birds, and both prizes in the young class. Both these classes, as also the *Dorkings* (both coloured and white) were highly meritorious. In young coloured *Dorkings*, the Rev. G. Hustler gained the first prize with a beautiful pen of well-matched birds. In *Cochins* nothing very first-rate was exhibited, if we except Mr. Daft's pen of Buff chickens, which, although only placed second by the Judge, were decidedly superior to the first-prize pen. The *Game* fowls were well represented in every class. Messrs. Bradwell, Swift, Strange, Doncaster, and Camm, all showed very excellent birds. The *Hamburgh* classes do not call for any special remarks. In *Polands* only three pens were exhibited in two classes, which were of ordinary merit. The *Bantam* classes all contained many highly meritorious specimens. The first prize in the Gold-laced class was awarded to the Hon. W. W. Vernon, and the second to T. H. D. Bayly, Esq. In this class, the general opinion was, that the order of merit should have been reversed, and the first prize given to Mr. Bayly, who won both prizes in the next class, Silver-laced Bantams. In the latter class, that gentleman's birds which were second at the late Show at Birmingham, were adjudged second at the present Show; while a pen which the owner and many others considered inferior, received the first prize. In Black Bantams, Mr. Hawksley maintained his Birmingham reputation, but was closely pressed by Mr. Bayly. The first prize in the extra Bantam class was awarded to Mr. Hole's Game Bantams, though Mr. Bayly's birds were scarcely inferior. In *Geese*, *Ducks*, and *Turkeys*, Mr. Daft was very successful. He showed some very good birds. The *Aylesbury* Ducks were not so good as we have seen exhibited lately. The two Silver Cups fell to the lot of Messrs. Daft and Camm, both residents in Nottinghamshire.

The President's Cup, G. Daft, Halloughton.

Second Cup, — Camm, Farnsfield.

Spanish.—First, E. H. Strange, Ampthill, Beds. Second, Mrs. Parkinson, Knapthorpe, Newark. Commended, Lord A. E. Hill, M.P., Norwood Park, Southwell; A. Watkin, Freedom Cottage, Walkley, Sheffield. *Chickens.*—First and Second, E. H. Strange, Ampthill, Beds.

Dorking (White).—First, — Camm, Farnsfield, Southwell. Second, — Daft, Halloughton, Southwell. Commended, J. Duncan, Fareham, Hants. *Chickens.*—First, — Camm, Farnsfield, Southwell. Second, E. Turton, South Collingham, Newark. Commended, — Camm, Farnsfield, Southwell.

Dorking (Coloured).—First, Mrs. Parkinson, Knapthorpe, Newark. Second, H. Smith, the Grove, Cropwell Butler, Notts. Highly Commended, W. Dolby, jun., Syston, Grantham. *Chickens.*—First, Rev. G. Hustler, Appleton, Tadcaster. Second, Mrs. Parkinson, Knapthorpe, Newark. Highly Commended, W. Dolby, jun., Syston, Grantham. Commended, H. Smith, the Grove, Cropwell Butler, Notts.

Cochin-China (Cinnamon and Buff).—First, E. Turton, South Collingham, Newark. Second, — Staley, North Collingham, Newark. Highly Commended, — Bradwell, Southwell. *Chickens.*—First, — Staley, North Collingham, Newark. Second, G. Daft, Halloughton, Southwell.

Cochin-China (Brown and Partridge-feathered).—First, — Bradwell, Southwell. Second, G. Kirkland, Southwell. Commended, — Bradwell, Southwell. *Chickens.*—First, — Bradwell, Southwell. Second, R. Swift, Southwell. Highly Commended, — Bradwell, Southwell. Commended, R. Swift, Southwell.

Cochin-China (White and Black).—First, S. Sneap, South Collingham, Newark. Second, A. Watkin, Freedom Cottage, Walkley, Sheffield. *Chickens.*—First and Second, V. Wilkinson, Southwell. Commended, A. Watkin, Freedom Cottage, Walkley, Sheffield.

Game (Black-breasted and other Reds).—First, — Bradwell, Southwell. Second, W. H. Swann, Farnsfield, Notts. Highly Commended, R. Swift, Southwell; — Field, Oxton, Notts. *Chickens*, First, R. Swift, Southwell. Second, E. H. Strange, Ampthill, Beds. Highly Commended, — Camm, Farnsfield, Notts; R. Perry, Kirklington, Southwell; E. H. Strange, Ampthill, Beds; — Doncaster, Maplebeck, Notts; — Rawson, Southwell; G. Cooke, Edwinstowe, Notts; — Bradwell, Southwell.

Game (Duckwings and other Greys and Blues).—First, — Doncaster, Maplebeck, Notts. Second, Mrs. Parkinson, Knapthorpe, Newark. Commended, T. H. D. Bayly, Esq., Ickwell House, Biggleswade, Beds. *Chickens.*—First, — Doncaster, Maplebeck, Notts. Second, Hon. W. W. Vernon, Wolsley Hall, Rugeley. Highly Commended, R. Swift, Southwell.

Game (White and Piles).—First and Second, — Camm, Farnsfield, Southwell. Highly Commended, T. H. D. Bayly, Esq., Ickwell House, Biggleswade, Beds; E. H. Strange, Ampthill, Beds. *Chickens.*—First and Second, — Camm, Farnsfield, Southwell, Commended, — Whittaker, Melton Mowbray; E. H. Strange, Ampthill, Beds; T. H. D. Bayly, Esq., Ickwell House, Biggleswade, Beds.

Hamburghs (Golden-spangled).—Prize, W. H. Swann, Farnsfield, Notts. *Chickens.*—First and Second, R. Hawksley, jun., Southwell. Highly Commended, H. C. Stenton, Southwell. Commended, W. H. Swann, Farnsfield, Notts.

Hamburghs (Silver-spangled).—First, W. Sylvester, 16, New Market, Sheffield. Second, R. E. Cooke, Sonthwell. *Chickens.*—First, — Camm, Farnsfield, Southwell. Second, Mrs. Parkinson, Knapthorpe, Newark. Highly Commended, Mrs. Bausor, Southwell.

Hamburghs (Golden-pencilled).—First, G. Daft, Halloughton, Southwell. Second, Mrs. Parkinson, Knapthorpe, Newark. *Chickens.*—First, R. Hawksley, jun., Southwell. Second, — Camm, Farnsfield. Highly Commended, Mrs. Parkinson, Knapthorpe, Newark; G. Neville, Stubton, Newark. Commended, — Hardy, Halloughton, Southwell; W. H. Malpas, Nottingham.

Hamburghs (Silver-pencilled).—First, Mrs. Parkinson, Knapthorpe, Newark. Second, E. Cope, Greaves Lane, Edingley, Southwell. *Chickens.*—First, G. Daft, Halloughton, Southwell. Second, E. Cope, Greaves Lane, Edingley, Southwell. Highly Commended, E. Cope, Greaves Lane, Edingley Southwell.

Polands (best any colour).—First, F. Hardy, Prince of Wales Inn, Bradford. Second, Rev. S. R. Hole, Caunton Manor. *Chickens.*—Prize, Rev. S. R. Hole, Caunton Manor.

Any other Distinct Breed.—Second, T. H. D. Bayly, Ickwell House, Biggleswade, Beds. Second, G. Daft, Halloughton, Southwell. Second, A. Watkin, Freedom Cottage, Walkley, Sheffield.

Bantams (Golden-laced). — First, Hon. W. W. Vernon, Wolsley Hall, Rugeley. Second, T. H. D. Bayly, Ickwell House, Biggleswade, Beds. Commended, T. H. D. Bayly, Ickwell House, Biggleswade, Beds.

Bantams (Silver-laced).—First and Second, T. H. D. Bayly, Ickwell House, Biggleswade, Beds. Highly Commended, G. Bradwell, Southwell.

Bantams (Black).—First and Second, R. Hawksley, jun., Southwell. Highly Commended, T. H. D. Bayly, Ickwell House, Biggleswade, Beds.

Bantams (any other variety).—First, Rev. S. R. Hole, Caunton Manor. Second, T. H. D. Bayly, Ickwell House, Biggleswade, Beds. Commended, Rev. T. C. Cane, Brackenhurst, Southwell.

Geese.—First and Second, G. Daft, Halloughton, Southwell.

Ducks (White Aylesbury). — First, Mrs. Parkinson, Knapthorpe, Newark. Second, — Camm, Farnsfield, Southwell.

Ducks (Rouen).—First, G. Daft, Halloughton, Southwell. Second, Mrs. Parkinson, Knapthorpe, Newark.

Ducks (any other variety).—Prize, G. Daft, Halloughton, Southwell.

Turkeys (Black Norfolk).—Prize, Lord A. E. Hill, M.P., Norwood Park, Southwell. Very Highly Commended, Mrs. Parkinson, Knapthorpe, Newark. *Poults.*—Prize, Lord A. E. Hill, M.P., Norwood Park, Southwell.

Turkeys (any other variety).—Prize, G. Daft, Halloughton, Southwell. *Poults.*—Prize, G. Daft, Halloughton, Southwell. Highly Commended, W. Dolby, jun., Syston, Grantham.

OUR LETTER BOX.

Canaries.—"As Mr. Brown has thought proper to state that I never had one of his Canaries, I request you will insert the following extracts on the subject from two letters I have of his, which prove incontestibly the falsehood of his bold assertion:—

(*Extract.*)

"'Dear Sir,—I am sorry your letter has not been answered: it is quite a mistake.

"'The birds I have are quite pure, as I take care to fetch my birds myself from Belgium. At this time I have but one pair that I can part with; that is, a buff cock and yellow hen. They are good-shouldered birds; that is, high in shoulder, long, thin neck, and very delicate in shape.'

"The second letter says:—

"'The buff cock you make choice of, I will pay every attention in sending him.'

"This bird was immediately purchased; it is now in my possession, and the parent of a very fine family.

"Why, then, does Mr. Brown deny my having this bird? '*Surely it is done to deceive the public.*'

"I beg further to remark, that I have never put forth the slightest claim to having one of his *prize* birds. I asserted, and still maintain, that my birds are the progeny of birds bought of Mr. Brown; and my advertisement will have no other construction, without a gross violation of grammar and common sense."—Oliver Nicholson, *West Street, Fareham.*

New Poultry Houses (*J. Douglas*).—They will be very handsome and very convenient; but they do not differ sufficiently from others published in "The Poultry-book for the Many," and elsewhere, to render it necessary to have them engraved.

Belgian Canary (*T. R.*).—No engraving in wood would give any useful model. Description, and seeing live specimens of acknowledged good birds, will be your best guides.

London: Printed by Hugh Barclay, Winchester, High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietors, at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—December 29, 1857.

WEEKLY CALENDAR.

D M	D W	JANUARY 5—11, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
5	Tu	Camellias.	30.043—29.781	35—28	N.E.	—	8 a. 8	4 a. 4	11 a. 25	20	5 42	5
6	W	Epiphany. Twelfth Day.	30.279—30.032	36—25	N.E.	—	7	5	morn.	21	6 8	6
7	Th	Correa speciosa.	30.346—30.304	35—28	N.E.	—	7	6	0 39	☾	6 34	7
8	F	Correa pulchella	30.308—30.221	42—35	E.	.11	7	7	1 52	23	7 0	8
9	S	Cuphea platycentra.	30.143—29.797	48—40	S.W.	.71	6	9	3 5	24	7 25	9
10	Sun	1 Sunday after Epiphany.	29.589—28.989	51—38	W.	.27	6	10	4 18	25	7 50	10
11	M	Cinerarias.	29.292—28.940	45—24	W.	.07	5	12	5 30	26	8 14	11

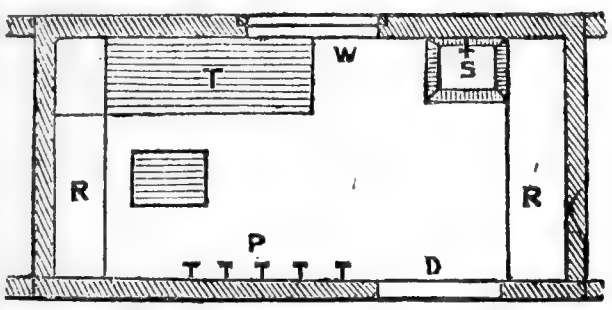
Meteorology of the Week.—At Chiswick, from observations during the last twenty-eight years, the average highest and lowest temperatures of these days are 41.1° and 30.7°, respectively. The greatest heat, 44°, occurred on the 5th, in 1854; and the lowest cold, 7°, on the 6th, in 1841. During the period 112 days were fine, and on 84 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 192.)

DARK CHAMBER.

As some of our readers will, no doubt, be able to appropriate an unused room to the purposes of photographic manipulation, we will give some idea of the arrangement of a dark chamber by means of the accompanying plan.



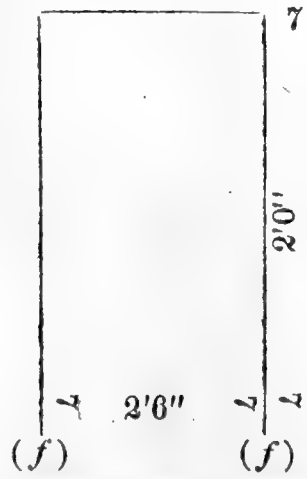
D is the door, any crevice in which must be filled up. **W** is the window, furnished with a moveable screen composed of four thicknesses of yellow calico, or baize, stretched on a deal frame. **T** is the work-table, on which are placed baths, preparing glasses, and solutions necessary for the process, which the operator is employing. **R** is a range of shelves on either side the window. On the lower, at the left, are situated flat dishes containing fixing and toning solutions, and washing-pans. **S** is a sink, over which a water-tap is fixed. **P** represents a set of wooden pegs for hanging cloths; above each peg is a label denoting the use of the cloth hanging thereon.

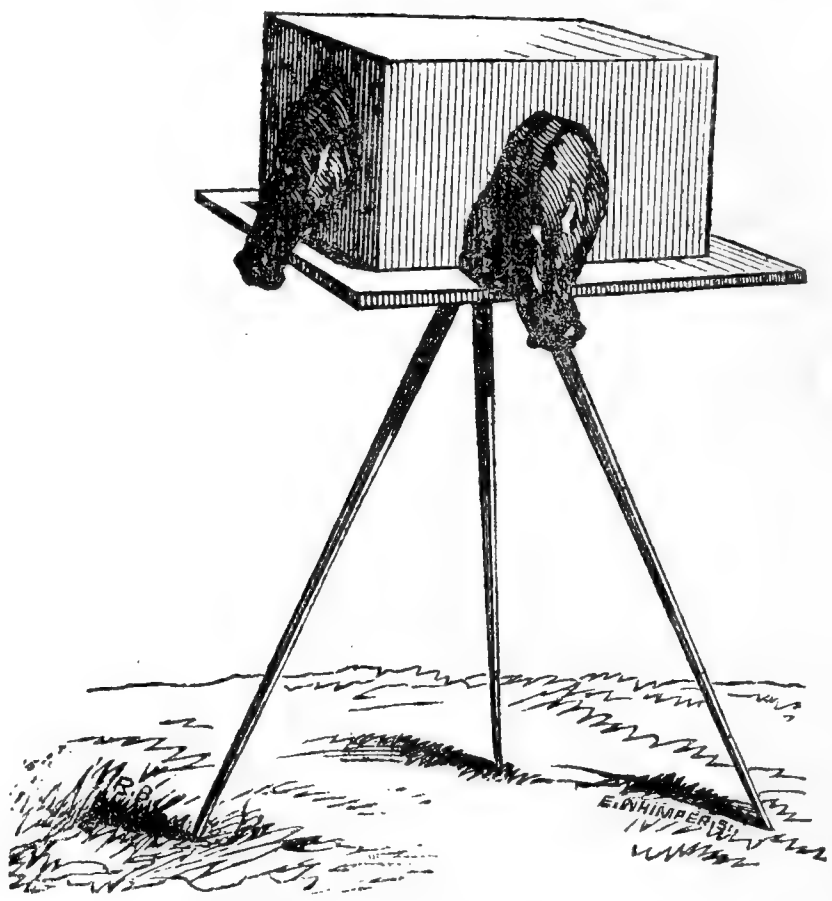
N.B.—All bottles when not in use should be placed on the upper shelf (**R**) *to the right of the photographer.*

PORTABLE DARK CHAMBER FOR PHOTOGRAPHING.

Construct a tripod stand similar to that described at page 158, but with stouter legs; and for the top, a rectangular piece of wood 2″2″ × 1·8.

Then procure two pieces of ¼-inch rod-iron, and bend them into the shape here shown. Pierce two holes in each end of the before-mentioned rectangular piece of wood to receive the feet (*f*) of the iron frames; which, being placed in position, are covered with a casing composed of three thicknesses of yellow calico. An opening is left at each side for the hands, and at one end for the head of the manipulator. A sleeve fitted to each opening is encircled with a piece of elastic.





The whole apparatus is here represented.

ALBUMEN PRINTING PROCESS.

By the following preparation a glossy appearance, unattainable by the ordinary process, is produced.

A { Whites of two unboiled eggs.
10 grains of common salt.
Beat well up together.

Let stand for four hours.

Filter through muslin into a flat porcelain dish.

The farther preparation is a repetition of that at page 109, the egg solution being used instead of the salt water; but substitute 70 grains for 40 grains in solution **A**: and after the albuminized papers are dry, and before floating on the nitrate bath, it is desirable to place them, one by one, between two pieces of smooth paper, and pass a moderately-heated flat iron over them.

This coagulates the albumen.

We have thus endeavoured to give our readers an idea of photographic manipulation in its simplest

aspect. Photographic art is at present in its infancy; there is much room for improvement; and those of our friends who have leisure for experimenting, will find that *the juices of many flowers and vegetables expressed in alcohol* form an exceedingly sensitive surface when applied to paper. "It seems that this photographic influence pervades all Nature; nor can we say where it stops. We do not know but it may imprint upon the world around us our features as they are modified by various passions, and thus fill Nature with daguerreotype impressions of all our actions that are performed in daylight. It may be, too, that there are tests by which Nature, more skilfully than any human photographist, can bring out and fix those portraits, so that acuter senses than ours shall see them, as on a great canvass, spread over the material universe. Perhaps, too, they may never fade from that canvass, but become specimens in the great picture-gallery of eternity.

"How does this principle strew the path of eternity with flowers to that man who, in this world, finds his highest pleasure in doing good!"

HIGHGATE NURSERIES, NEAR LONDON.

From witnessing the public spirit and success of Mr. W. Cutbush, at the different shows round London; and more especially his decided improvement in the cultivation and forcing of Hyacinths; for the last few years, I had him in my view as a very likely man to afford a new leaf out of his book: so I booked him, and threatened to visit him in my rounds for ever so long. And when he made known, the other day, (page 163) that it was better and more profitable to grow the variegated and fancy kinds of Hollies from cuttings, than by the usual modes of budding and grafting, I took up my book, and went over to see him at once.

Well, sure enough, he does grow these Hollies most beautifully from cuttings; and the plants are three times better that way, for amateurs, than wrought plants on the common green Holly, as stocks; for this reason, that they, the variegated Hollies, never make green suckers, and give no bother that way; they are better rooted, and root nearer the surface than seedlings; and when you get tired of seeing them as little broad-headed bushes along the front of a shrubbery, all you have to do, will be to cut so many of them down to the ground, about the end of March, and they will push up two, or three, or half-a-dozen sucker-like shoots, "from the collar," as we say. Then, by selecting the strongest of these, and cutting back the rest, the plants will make stems enough for standards in one season, or at most in two growths. See the advantage of having all these kinds, like standard Myrtles, or standard Rhododendrons, and other fancy standards for the terrace garden. I firmly believe this move to be the greatest improvement that has been effected in my time for the decoration of terrace and geometric gardens. At the beginning of The Cottage Gardener I cried out for standards to be made of all the shrubs in cultivation, for this very purpose; and see how the tune has been whistling and swelling on the ear, and mellowing to the understanding of taste and judgment ever since; while the whole power, force, and strength of the silly old Horticultural Society were set against the move altogether, as Mr. Appleby can tell to his cost: the old "hissy," as they would say about Riccarton, having swamped his maiden standards of *Deutzia gracilis* the very first time they were exhibited at Chiswick.

When one has enough of standard Hollies of all the kinds, let the rest be encouraged to make trees as high as they will grow. Mr. Cutbush recommends the following kinds as the best for making standards:—*aurea*, the best yellow; *flava*, next best yellow; then *ferox*, *albo-marginata*, *echinata*, *picta*, and *heterophylla* out of the variegated sorts; and *Cunninghamii*, *cornuta*, *balearica*, and *canariensis* as the best of the green kinds. *Cunninghamii* is a beautiful green Holly that is very little known about London, but seems as hardy as the common Holly.

Mr. Cutbush has another new scheme in contemplation, by which he will be able to undersell the French growers of standard *Sweet Bays*, such as those which every lover of gardening admires so much at the Crystal Palace. I never saw such quantities of fine *Sweet Bays* in any nursery. He takes them all from layers which are tongued on the upper side. His old stools, ten in number, produce from three hundred to five hundred shoots in a season ready for layers, and from twenty inches to four feet long. His plan for making standards of them is ten times better than the foreign mode. Mr. Cutbush's Bay standards will never throw up one single sucker in a thousand years; while the suckers alone, on a double row of them which I could mention, are as troublesome to keep down as a bed of nettles.

His *Roses*, again, are most beautifully grown as standards; but he only keeps the very best kinds of them, as his land is too valuable to be taken up with common kinds; which, if any of his customers ask for, he can procure from the country cheaper than he can grow them so near London. He also believes there is no better mode of growing dwarf Roses than on their own roots: and he is right. But he says that it is not always in the power of the trade to get the cuttings at the right time. They must not prune their Roses till the time for transplanting them expires in the spring; as their customers would purchase them if the plants were pruned before they bought them. To this I would add, for a set-off, that when I was in Edinburgh, "Peacock's" nursery there was then reckoned the best Rose nursery in Scotland; and the foreman told me that one-eighth of an acre of dwarf Roses on their own roots—as all dwarf Roses were at that time—would produce a sufficient number of plants to plant four acres every second year, by merely dividing the side-suckers with full roots from the old plants; and that, when he had to take up a hundred dwarf Roses to supply an order, he generally got from two hundred to four hundred young rooted suckers from them for himself. A large Pear tree in the Rose beds was then layered every year, just after the Roses. The ends of the boughs all round touched the ground; so that Pears and Roses, on their own roots, could be had from that nursery, if that were an advantage.

In reviewing a good nursery, with such an intelligent guide as Mr. Cutbush is, all these things come into one's head; and is it not much better to "out with it," than run over twenty acres, or twenty houses, and merely report the contents, as one would so many red herrings, or black rooks shot at one bang? To be sure it is: and it is for that very reason that The Cottage Gardener is taken as the best authority for trade reports in this country, as any nurseryman in America can vouch for.

What would one say to 800 *Evergreen Oaks*, from three to eight feet high, and all growing in No. 1 and No. 2 pots, so that they can be removed quite safely any day in the year? Mr. Cutbush took

me to see that part of his Evergreen Oaks on purpose; and he told me that he planted, I forget how many hundreds, but I think 300 of them, in the City Cemetery, down at Ilford, in Essex, and that he did not lose half-a-dozen out of the whole lot. He and the Messrs. Jackson, of Kingston, have the largest quantity of *Tree Box* about London, as far as I have seen yet; and Mr. Cutbush has at least two miles of splendid *Dwarf Box*, every yard of which would plant more than three yards of good substantial edging. *Laurustinus* the same. He says the Laurustinus is the best evergreen for the London winter season; and *Juniperus virginiana*, the American "Red Cedar," the next best. Then, Sweet Bay, Aucuba, green and variegated Tree Box. The variegated *Euonymus* is particularly good in smoke, and all the varieties and kinds; Arbor vitæs, and also common Rhododendrons. While all kinds of Hollies and the Holly-leaved, or now-common evergreen Berberis will not do at all. Now, to a man like Mr. Cutbush, who was born within five or six miles of St. Paul's, and who has to supply large quantities of such plants, this kind of practical knowledge is of immense advantage. *Cupressus funebris*, of which he has a large stock, is the best evergreen he finds to stand the winter in front halls, or anywhere about London houses, safe from much frost, which it will not stand well about London in pots, or under rough treatment.

Eurybia Gunniana and *ilicifolia*, two evergreen, shrubby, Aster-like, flowering plants, he much recommends, as very showy in June and July, with their snow-white flowers innumerable. They are as hardy here as *Gum cistus*. Four rooted cuttings of *Libocedrus Chilense*, which were planted out of the same pot six or seven years since, are now, respectively, six feet, five feet, three feet, and eighteen inches high, in the same row. The way to account for such immense difference is this: the six-feet plant is, or was, the leading point of a side-shoot; the five-feet, from the next strongest leading side-shoot; and the other two were from the weak side-shoots on a lateral branch. This is the best practical illustration I have ever seen or heard of, about the actual value of a choice of cuttings from the same plant. One of the four cuttings is worth, say, three half sovereigns in six or seven years; while the very next cutting, under perfectly similar circumstances, is not worth more than two shillings, or two shillings and sixpence.

Cuttings of most kinds of the Cypress-like Conifers will make upright plants, which cannot, in a few years, be distinguished from seedlings. The *Wellingtonia* comes as freely from cuttings as any of the race, and assumes the form of a seedling from the cutting-pot. Mr. Cutbush, who can grow variegated Hollies from cuttings, as freely as *Tom Thumb* Geraniums, but not quite so quickly, finds no difficulty in rooting all the new and finer kinds of Conifers. I counted pots of cuttings of the following, and not one cutting lost: —*Thuja aurea*, *T. Caucasica* (new), *T. gigantea*; *Thuiopsis borealis*; *Libocedrus Chilense*, and *Doniana*, *Wellingtonia gigantea*; *Cupressus Goveniana*, *macrocarpa*, and *funebris*; *Fitzroya Patagonica*; *Saxgothea conspicua*; *Abies Brunoniana*, and *Webbiana*; *Dacrydium Franklinii*, and *cupressinum*; and two kinds of Yew-like plants, called *Taxus nubigenus*, and *japonicus*. Mr. Cutbush says the Deodar will make as fine plants from cuttings as any of these; but that it would not pay to make them from cuttings, now that they are so cheap. He has Deodars of all sizes, as well as of Cedars of Lebanon; splendid specimens of the Maidenhair tree, *Salisburia adiantifolia*; a huge specimen of the *Wellingtonia*, planted out "for good" on the highest part of this high-lying nursery; and he agrees with me, that the *Wellingtonia* might be made to *grow up* into the air three times faster than it does in most places, where it is allowed to spend two-thirds of its strength in growing sideways. The same remark holds good for the generality of such habited trees.

A large plot of the *Mediterranean Heath*, growing most luxuriantly in strong, yellow loam, and tens of thousands of cuttings of hardy evergreens, being put in during the month of December, were new to me; but I saw the work in progress on a north, wide border. Twenty years since, unless these cuttings were got in before the end of September, we said it would be all up with them; merely because we took it for granted, without ever trying, by experiment, to ascertain if the practice were right or wrong.

Standard Mulberry trees took my fancy here, more than I recollect in any other nursery, owing to their size and handsome "getting-up." Apples, Pears, Peaches, Plums, Cherries, and all the rest of the fruits, grow very healthily in this exposed nursery. The *Prince of Wales* Raspberry, which Mr. Cutbush supplied to all his regular customers, for the last seven years, has been so well spoken of, that he felt bound to make it known to all the world at last. It is just now about twice the strength of any of the other kinds grown here. The history of it is, that a blackbird, or some bird, stole a fruit of the *Antwerp*, and swallowed it, but could not digest all the seeds; one of which produced a seedling in a hedge, not far off: and the hedge plant is now the *Prince of Wales* Raspberry.

How to renew an old Yew, has been experimented on, and proved by the father of the present owner. A row of Yews, nobody knows how old, ran across the Nursery,—the trunks as stout as a giant's body; and their heads covered ever so much of the ground. Five and thirty years back the whole were cut in to the main trunks, not a branch or a twig being left; and now they form a hedge from four to five feet through, and twelve feet high, looking as fresh and healthy as if they were seedlings twenty years of age; and the hedge is proof against the smallest bird. I once saw a Yew hedge, which was thirty-five feet high, in the garden of the late Mr. Lambert, beyond Salisbury, which is the highest and the best hedge of Yew, or of Holly, in that part of the country.

In bedding plants, Mr. Cutbush is very strong. All the best scarlet and variegated Geraniums he grows by hundreds and by thousands. A new variegated one, called *Beauty*, which he bought from Mr. Lowe, he says, will be the best bedder of them all. His *Golden Chains* look remarkably well; and he spoke of a new and superior kind of Golden Chain, which he has under experiment. His Calceolarias are very fine—not one of them in pots; but thousands of them are from cuttings, bedded out in cold frames, close to the glass: and a covering of mats in hard weather, is all the extra care they require.

A new bedding Geranium, of the greenhouse class, and called *Modestum*, looks like one I mentioned being at the stud house, last autumn. It is half-way between the Quercifoliums and Unique. It makes an excellent bed. *Fulgidum compactum* is another of which Mr. Cutbush speaks as most beautiful; also, *Fulgens*, "a free bloomer and most brilliant colour;" *Dennis's Alma*, and *Crimson King*, I can back him in saying, are two most telling in large beds. He has all the Uniques, the Diadematums, and Quercifoliums; *Turner's Alma*, variegated, is also one of his pet sorts. *Tom Thumb*, and *Commander-in-Chief*, he grows most of in the scarlet class; then *Punch*, *Le Titian*, *Reedii*, *Dazzle*, *Baron Hugel*, *Amazon*, *Cerito*, *Bishopstowe Scarlet*, and *Brilliant*, among the variegated kinds. A green shoot of Brilliant in the Experimental, and another at Hampton Court, turned out to be the real

Tom Thumb. *Dr. André*, and *James Odier*, he considers the two best of the French spotted kinds for borders, and for crossing from.

Mr. Cutbush is up in the fashion with his exhibition Pelargoniums. For the May competition, he pots his specimens in October, in eight-inch upright pots; and these are now in training, with a large hoop, three to four feet in diameter, *under* each of them. The hoop is hardly higher than the rim of the pot; and is held by sticks, like the spokes of a wheel, the other ends being stuck in the mould. The plants stand up above the rest on inverted pots, and are kept as cool and as airy as can be. They look remarkably well; and all one could do, was to wish them good luck.

Mr. Cutbush took handsome prizes with *Japan Lilies*: and this is how he grows them. At the end of November, they are put into separate pots, and are plunged under glass, without frames; the lights being laid on inverted small pots all round, so that the pots are within two inches of the glass and the air on all round-day and night. In Febuary, five, or seven, or more, of the very largest bulbs are put into one pot—the one in which they flower; and all the attention given is to see that they are kept as cool as possible till the frost is gone, when they have almost an open-air culture; the glass being down only during heavy rains. The soil is one-half strong yellow loam; the rest of peat, sand, and leaf mould. He has thousands of them, in all stages.

Dielytras, again, he seems to have no end of, and they sell better than any plant in the market: but of all the plants, he says, ladies are most fond of the colour of *Leptodachylon Californicum*, which comes from cuttings "like a weed," but is hard to keep over the winter. He finds that keeping the cuttings in the cutting-pots with a little sand over the surface, is the best way to get them over the winter; and he told me that he could warrant a bed of it, out of doors, would last from two to three months, "if done properly." Then, says I, "You are the man:" and if people will let him off without telling us the whole of the secrets about this lovely flower, I shall not be to blame for neglecting to book them on the spot.

Chinese Primroses he grows by the hundred; and they are now beginning to understand them round London. Ferns, of stove, greenhouse, and hardy kinds, like all nurserymen, he grows very extensively. Gloxinias and Begonias the same. Wardian Cases, full of the tiniest and purest gems of the fairy forms, and Lycopods, he could make up or down, any way you please; and a sample-case stands brimful in the principal show-house, to prove what he asserts.

There is a silver plant in this show-house, which I never saw before, but it must be as old as Highgate Church; it is called *Gnaphalium protocoides*. The leaves glisten like floss silk, and are silvery as the sparkling of a cairngoram in the loch below. *Daphne hybrida rubra*, the sweetest of the family, is all over the stages in all sizes, from 60's to the largest specimens about London. Sikkim and Bhootan Rhododendrons, Azaleas, Camellias, Heaths, Hedaromas, and such-like plants, make up the bulk in the show-house, with a few double Roman Narcissus, just come in from the forcing-house. Many of the nurserymen still keep to Genetyllis, as their name for Hedaroma. The two are as two sections of Pelargoniums. *Phygelia capensis* he spoke well of: and I had no means yet of proving its worth; but I described it, two summers back, from a show at Chiswick. Verbenas, Pentstemons, Phloxes, Cinerarias, Campanulas, Dahlias, Fuchsias, Hollyhocks, Anagallis, Alyssums, Salvias, Lobelias, and all such flower garden plants, he finds very remunerating so near London. But for his great strength in the growth and forcing of Hyacinths, how he takes the prizes, his new kinds, and all about them, and the rest of his doings, I must put off till some other day.

D. Beaton.

A FEW NOTES ON PINUSES.

Although many years, probably centuries, must elapse before the general features of our woodland scenery undergo much change, by the introduction of species not indigenous amongst us; still, there is a probability of much of the ornamental plantations, which clothe the domain of the affluent, being much affected by the varieties now commonly planted there. Beech, Elm, Oak, Lime, and Chestnut avenues, have given place to rows of Cedars and Araucarias, much to the regret of those, whose patriotism prompts them to think that "English scenery," ought to be garnished with "English trees;" and who loudly exclaim against foreign intrusions, whether in the shape of giving us advice on affairs of India, or of planting too freely the Pinuses we have from the northern boundary of that interesting country. Be that as it may, it is certain that the sombre appearance which a fine forest presents will tell in a few years on the outline of the home-grounds of many a mansion in the south and central counties of England. Venerable Oaks, Elms, and other trees, are remorselessly removed for the new comers; who, with long names, and character for size and longevity, almost bordering on the fabulous, have from time to time been introduced to notice.

Many years ago, the *Abies Douglasii* was regarded the monarch of the Pine forest, until its claim was disputed by a much older acquaintance, the *Weymouth Pine*. Subsequently we had many aspirants to the regal dignity. *Pinus Lambertiana*, a Taxus, and several Mexican species of a too-tender constitution for this country, have successively contested for the honour of being the first lord of the vegetable creation; and each backed by a numerous body of friends and admirers. This rivalry seems for the present to be set at rest, by the new Californian species of *Wellingtonia* claiming the much-prized honour; but how long this much-admired species may retain its dignified position, it is impossible to say. Enterprising travellers are abroad; and it is possible they may come in contact with some species of greater magnitude than even this wonderful tree. At all events, large tracts of forest lands remain yet unexplored, in countries expected to furnish hardy species. The sources of those mighty rivers which water the rich plains of Brazil, and other South American countries, have their source in regions of greater cold than the British Islands; and have been yet but very imperfectly explored: and the same observation applies to Central Africa. So that we may, at some future day, have magnificent importations from those countries.

The Patagonian species, recently introduced, are a proof that Pinuses exist in that continent: and that other places will also furnish contingents, there is little doubt; and amongst them, perhaps, a chieftain of even *higher* pretensions than the ofty *Wellingtonia*. But we must not forget, that kings of the forest are only like other mortal dignitaries of similar rank—each reigning in his own country alone. Many years, indeed, must elapse, ere the *Wellingtonia gigantea* rears its head over our worthy friend, the *Silver Fir*. Still more unlikely is its doing so in Norway, and the countries of the Baltic, from whence the bulk of our Pine timber is drawn.

Now, though these wonderful products of the vegetable creation, towering to some 350 feet high and upwards, amaze us by their magnitude, there is a much greater probability of a young plant of the same species dying in its infancy, than of arriving at one-fourth that height in this country; where it is placed under circumstances so widely different. Nevertheless, there is a merit in trying to introduce such novelties, apart from their intrinsic value; and good collections of them are a proper direction of taste. But extensive plantations of them are quite another thing. To clothe our English landscape with other than English trees, will, in a general way, end unsatisfactorily. A Deodar, thirty feet high, and as many through at the bottom, is a noble object to look upon in the lawn when near at hand; but in the distance, an aged Scotch Fir, with an expanded top, is a more commanding feature. The *Araucaria imbricata* is certainly tropical in its appearance; and its slow growth and scarcity proclaim it to be an occupant

of the dressed ground only. Many others might be named in like manner. But there is one exception to this rule, and that is in the Cedar of Lebanon, which, though not a native here, is certainly so far acclimated as to give hopes of its becoming one of our longest-lived trees; while, for appearance and general utility, it is second to none that has ever been introduced: and the many fine examples there are of it in England, attest how well it is suited to the soil and climate.

Now, though collections of Pinuses, taken as a whole, present no striking features when seen a mile off, (and probably, many of them never will look well at that distance, if they thrive ever so well); still, there are points of beauty about them, when examined more closely, which the most careless cannot but be interested in, and differing widely in outward form and appearance. There are intermediate links which unite them in one vast family: but some strange characters of close relationship exist amongst them. The *Abies Clanbrasiliana*, and *Spruce Fir*, are supposed to be derived from the same parent stock; while the height of the latter is something like a hundred-fold that of the former. The *Araucaria imbricata*, and *A. excelsa*, are also widely different in appearance, as being from countries separated by thousands of miles of ocean. Others present similar features: but the wide range of genera, into which the great family of Pinus has been subdivided, is certainly a matter useful only to botanists; and the sooner a simpler method of classing them is devised the better. As authorities on such matters seem far from agreed upon the best system to be applied, they must not find fault with their conflicting nomenclature being disregarded in many cases.

Having already extended this paper to a greater length than I intended, I can only finish by noticing a few of the more remarkable species, as being the types of their respective kinds; observing, at the same time, that general features are only alluded to.

CEDAR.—The *Deodar*, and *Cedar of Lebanon*, differ so widely, that both are good and useful in their way. The graceful, pendulous habit of the one contrasts with the rigid sturdiness of the other. They are both deserving of attention.

PINUSES, *with deep green foliage.*—The most striking in this way, is *insignis*, and it is one of the most rapidly growing ones we have. The habit is more bushy than tapering, which is not the case with *Austriaca*, also in this class.

PINUSES, *with long, slender, silvery foliage.*—*Excelsa* is, perhaps, the most conspicuous in this class; its foliage having a drooping horse-mane or hair-broom-like appearance. This, however, is rather tender in many places, as well as some allied species: nevertheless, such species as *P. macrocarpa* or *Sabiniana*, are very hardy, but they lack that fine hair-like character which distinguishes *excelsa* and others. Besides, they do not droop in that graceful manner in winter, which the more delicate-foliaged kinds do. The *Weymouth Pine* belongs to this class; and though its leaves, or spines, are short compared with many others, still it has the same tendency to droop in winter that they have.

PINUSES, *with strong vigorous foliage.*—There are many sturdy varieties in this way. *P. pinaster*, *P. ponderosa*, *P. Benthamiana*, the *Stone Pine*, and others, and *Sabiniana* and *macrocarpa*, might more properly be classed here likewise. Trees of this class are generally vigorous, strong growers, presenting more of an expanded head, than a tall tapering form. They like a dry soil, but are not the best to withstand a blast, especially those that have been planted out of a flower pot, without disentangling the roots—a matter of the utmost importance to all Pinuses, even if it be at the expense of a year's growth, or more.

THE SILVER FIR TRIBE. — The handsomest that I am acquainted with in this class, is *Picea nobilis;* but *pectinata*, *Webbiana*, and one or two more bearing a purple cone of large size, are also pretty. *P. Douglasii* is also good; but in general appearance it does not excel the ordinary *Silver Fir*, and has not attained a sufficient altitude yet to compete with that monarch of our forests. Little can be said about it, except that it promises well. This class likes a rather damp soil.

THE SPRUCE FIR, and its allies, called *Abies*, vary more in their habit of growth than in their foliage; although much dissimilarity exists in the latter as well. *A. Morinda*, and *Smithiana*, having long leaves of a deep green, while *A. cœrulea*, and some others, have shorter foliage of a brownish blue colour. As a class, this is generally more dense in foliage than most others.

An intermediate section between the Silver and Spruce Firs, might consist of *P. Cephalonica*, *Pinsapo*, and others, with short round leaves inserted on all sides of the stem or branch. These are very handsome and compact; but are slow of growth, and somewhat liable to lose their leading top in early spring.

CYPRESS TRIBE.—This is too varied to class under one general head; but, in a general way, they like a deep rich soil, not too dry. The old Italian Cypress is still one of the most handsome; but *Cupressus Lambertiana* is more rapidly growing, but perhaps more loose. They are all generally pretty; but I have not seen anything in the *C. funebris* yet, that resembles the description given of older trees of it, by its introducer.

CRYPTOMERIA JAPONICA would be one of the finest and most ornamental species we have, if it did not turn so brown in winter: as it is, its habit is slender and tapering, more so than any kind I know of, without its top consisting of a multitude of leaders, each struggling for the mastery. This only furnishes one; and the branches have rather a tendency to droop than to rise upwards, their tips only turning that way.

ARAUCARIAS.—*A. imbricata* seems the only really useful one we have; although, at this place, we have *A. Brazilliana*, upwards of twelve feet high, and as many wide, standing out for many years; but its growth has been slow. These are so widely different from any other species of Pinus we have, that I cannot well rank them as other than fit occupants of the dressed ground only.

Besides the above, other classes, embracing the *Libocedrus* and *Arbor Vitæ*, might be found as well as the dwarfer species of *Savin;* but these are more in the character of pleasure-ground shrubs then forest trees, and not included here. The reader must also bear in mind, that the above classification is merely one that would suggest itself to any one, by a mere cursory look at the various kinds, and not in accordance with the botanical character of the trees in question.—JOHN ROBSON.

FIXBY HALL.

THIS was long the seat of the Thornhills, and is now the property of Archibald Thornhill, Esq.; but, at present, is the residence of J. P. Edwards, Esq., who has lately added a new wing to the south front, finished in the same style of architecture in which the Hall was first built. Its situation is on the acclivity of a rising ground to the south and west, and near the centre from the railway stations of Huddersfield, Bridge House, and Elland, which are in triangular form, about two miles' distance from the Hall.

The park and woods, which occupy from four hundred and fifty to five hundred acres of rich land, are bounded on the south-west and north by a deep and an extensive valley, affording many pleasing vistas.

The park was formerly entered by four principal gates, so situated as to point to the four aspects. That on the south, however, has long been out of use. The lodge, the fine heavy stone piers, and the gate, are still standing, and in good repair; but the carriage-drive is broken up.

The entrance on the east is situated at right angles with the old high road between the market towns of Huddersfield and Bradford. The gates are substantial, and ride between massive stone piers. The lodge is a spacious, comfortable dwelling, placed on the right hand inside the gates. Both are embosomed in wood. This entrance gives the idea of its connection with a residence of wealth, which loves to dwell in security and seclusion. From the gate the carriage-road passes a dense and lofty grove of forest trees, whose boundary on either side is discernible, giving the idea of confinement, which, under all circumstances, is irksome to a stranger, who eagerly wishes to catch every new and interesting view that the ground or country over which he is travelling affords. While in this tedious suspense, he gradually emerges from the deep shade of the woods into open day. From this point a most beautiful prospect opens out to the eye. The scene is richly varied. Fine masses of wood hang upon the slopes,

or cap the boldly-swelling knolls; and give the park, as it were, the appearance of a valley, which runs towards the east, and is lost in a sudden descent of wood, only the tops of the trees of which are discernible at a distance.

The approach from this point trends to the left in an easy sweep, always pointing to the Hall, which is here seen in the distance, embosomed in wood, and well-kept evergreens. Across the park, to the right, in the edge of the belt of trees that flank the north side, is an old building in ruins, called the Shepherd House; which, as an ancient relic, is enlivening to the scenery, but as a human residence would be out of place.

Advancing along the carriage-drive, the eye looks across winding glades and pleasing views of the surrounding country on the left. Then, passing a herd of young Lancashire Short Horns, or a flock of West Highland Scots, the visitor is ushered beneath two large trees of *Acer Pseudo-Platanus;* and over the bridge, and through the gate that is thrown across the ha-ha, which divides from the park the lawn and shrubbery surrounding the Hall, he finds himself on the east front. Here the scene is enchanting. The undulating form of the ground to the right and left, and the deep shade of the surrounding woods, and gradual descent of the park towards the east, allow the eye to range over not less than twenty miles' distance of the surrounding country, in which are to be seen several neat village-church spires.

The lawn (on which is a good *Araucaria imbricata*), the trim carriage drive, and the large clumps of healthy-looking Rhododendrons and Azaleas, &c., planted by Mr. Guthrie, with not a single flower in the immediate vicinity of the mansion, harmonise with the Palladian or the Italian style of architecture in which the Hall is built, and the whole surrounding scenery. On the left of the main entrance to the Hall is a thicket of shrubs, composed of common Laurels, Hollies, &c., that completely hide the court wall; through which is a private walk leading into the court-yard. This has been embellished by Mr. Guthrie with embankments planted with evergreens, and bounded by thirty-inch grass verges. On the left are the stables; and on the right, in front of them, the servants' hall and offices. Large timber trees of various kinds overshadow this part of the establishment, and take the rear to the west; beneath which have been planted, during the last two years, upwards of two thousand Rhododendrons and common Laurels, that have made good growth, and promise to make fine under-shrubberies.

To the south-west of the mansion is the deer park. Here the different vistas are enchanting. The first object that strikes the attention is a new plantation of forest trees close to the back of an army of ancient foresters that have battled victoriously with the storms of many years, and cap the hill that is over against the south front of the Hall. On the right is a massive wood which covers the brow of the hill that descends into the valley towards the south. At the acclivity of the hill, free from the shade of the wood, is an old ice-house which fronts to the south, and is without any external covering upon it; and I was informed that it keeps ice, with little or no trouble, the whole year round.

In this part of the park are several large old Oak trees, now in decay, that once reared their heads in glory. These "kings of the wood" bear evident marks of their royal existence when Fixby was a forest.

A little to the south from this point, the ground forms a sort of promontory, from which a beautiful panoramic view of the surrounding country is obtained, as far as the eye will carry. Over against the park is the market town of Huddersfield, and the general cemetery, and several Gothic churches.

To the north of the Hall is the kitchen garden, which is well enclosed by a large brick wall and wood paling; and against the latter have been planted young plants of Beech and English Elms, that, ere long, will form a good fence on the south side, as well as serve to soften down the hard lines of the old brick wall, which, under all circumstances, would be objectionable to the eye of refined taste. It is well shielded on the outside from heavy winds by large trees; under which runs a gravel walk, particularly inviting, by its shadiness, on a hot summer's day.

The kitchen garden—in fact, the whole of the estate—was in a most delapidated state previous to Mr. Edwards entering into it; but now all parts are being altered and improved: and in no part are the improvements more striking than in the kitchen garden. Old, half-decayed Cherry and Apple trees, and Currant and Gooseberry bushes, that had occupied the ground for years, to little or no purpose, have been up-rooted, and the ground trenched from eighteen inches to two feet deep, and planted with young trees, and cropped with various successional crops of vegetables. The crops (in September), show the advantage they derive from the deep trenching Mr. Guthrie has adopted in his improvements of the place. The borders on each side of the walks are judiciously planted with a choice and an extensive collection of herbaceous plants; and these are intermixed with Dahlias and Fuchsias; so that the borders are gay with flowers from early spring to late autumn, which is a rarity in these days of rage for bedding-out the more showy half-hardy greenhouse plants. A brick wall that runs from east to west divides the kitchen garden into two compartments. The north division is wholly enclosed by brick walls, which give it the form of a quadrilateral figure; and would convey the idea that the south division enclosed by the paling, &c., mentioned above, was added after the other had been made. This part communicates with a new piece of ground that has been taken from the wood that is situated at the west end of the north division. The trees and crops of vegetables here are really splendid. In the centre of this part of the ground are three large trees of *Fagus sylvatica*, that, by all means, ought to be removed, in order that the crops cultivated beneath them may not be injured by the deep shade of their foliage. At the west end is an old conservatory, employed now only for protecting Camellias, &c., and in front of it is a large, choice, and healthy collection of Alpines, cultivated under frames.

To the north of this old house, under the trees that belt the west side of the park, is an ice stack, built according to the principles advocated a few years ago by The Cottage Gardener and Cottage Gardener's Dictionary. Mr. Guthrie spoke of the practicability of preserving ice in stacks in woods, and gave a marked preference to them, to the system of keeping it in the old kind of houses.

Proceeding from this point to the east on the right, is the head gardener's cottage, which is a spacious, comfortable dwelling, built of brick. Contiguous to it, along the brick wall of the kitchen garden, are the back sheds, Mushroom-house, fruit rooms, &c. Against the front wall of these buildings, which is overshadowed with large trees, are trained common Laurels, that give a pleasing effect. Now, entering the kitchen garden by the doorway that is placed in the brick wall, the first object that strikes the attention is the vinery, which is placed on the left of the entrance, and is a lean-to house, in the old style. The Vines are in good condition, and had upon them above an average crop of good-coloured and well-flavoured fruit. Beneath the Vines, Figs are cultivated to great advantage. Every tree is clean and healthy, and literally was covered with fine fruit, beginning to ripen off well; and along with the Vines and Figs is cultivated a miscellaneous collection of greenhouse plants. Among which I noticed a symmetrical *Cupressus Uhdeana*, that is worthy of being admired.

A little to the right is the greenhouse. This is a new span-roofed building eleven yards long, and seven yards and two feet wide, and runs from east to west, and has a north and south front. The roof on the north side is festooned with French kinds of *Passiflora*, which are rich both in foliage and flower. On the south side are trained along the rafters, *Bignonia grandis*, *Hardenbergia macrophylla*, *Acacia juniperina*, &c. In different parts of the house I noticed splendid plants of *Acacias grandis*, *armata*, *Lambertiana*, &c., with a well-grown miscellaneous collection of greenhouse plants.

The hothouse is placed at the west end of the greenhouse, and is of the same size and form; and is only separated from it by a brick wall, the height of the kerb stones of the pit, which is mounted by a glass partition that takes the form of the roof. On entering the house the eye is met on each hand, and from the roof, by lofty and elegant specimens of stove plants. Rising from a pot partially immersed in the pit that runs along the north side of the house, is *Hexacentris mysorensis*, which, on reaching the rafters, is trained over the roof in festoons, as far as its climbing branches will allow. It is clothed with large foliage of a lively green colour to near the pot top; and the branches are strong, but not gross, and

such as warrant the exception of abundance of racemes of perfect flowers. Intermixed with these are the festoons of *Cissum armorea*, in good condition, and one of the finest plants of *Stephanotis floribunda* I ever beheld, with its large racemes of white flowers hanging pendulously from the roof. Opposite, but on the south side of the house, is a large *Hexacentris lutea*, which, along with those already mentioned, bids fair for filling the whole roof of the house. At the west end of the house, in the centre, from the side of the pit, is plunged the pot which contains what has been said to be the largest *Beaumontia grandiflora* in cultivation. The growths of this plant are strong, and the branches are particularly short-jointed. The number of expanded flowers that were upon it at one time last season, to some individuals might appear incredible. An idea of the number, however, may be gathered from the fact, that at one time there were upon it one hundred and thirty trusses of bloom, and each truss numbering from thirteen to twenty-nine flowers and flower-buds. Under these magnificent climbers are cultivated successfully, *Dipladenia crassinoda; Allamanda Aubletii, cathartica, Schottii,* and *Neriifolia; Stephanotis floribunda; Torenia Asiatica; Clerodendrum splendens; Pergularia odoratissima; Echites splendens*, &c. These plants are large, and well clothed with fine, healthy foliage. The flowers are large, particularly those of *Dipladenia crassinoda, Allamanda Aubletii, Torenia Asiatica*, and *Stephanotis floribunda*. They are all trained on balloons, and circular oblong trellises; and only require to be seen to appreciate the taste and skill of Mr. Guthrie.

In the same house is a fine plant of *Begonia splendida*. It has put forth thirteen good crowns, which are showing bloom profusely; a plant of *Impatiens Jerdoniæ*, measuring twelve inches high, and from eighteen inches to two feet in diameter, literally covered with its novel-looking rich orange and scarlet coloured flowers. Also a fine *Exacum zeillanicum*, eighteen inches high, and twelve inches across, presents in one mass its dark blue flowers and golden anthers—is particularly interesting to the eye of the beholder. At the west end of the house is suspended from the centre of the roof, in a shell-basket, a large healthy and well-grown *Hoya bella*. And I also noticed several good Ferns scattered up and down the house; and was informed that upwards of 180 species and varieties of these exotic and hardy gems of the vegetable kingdom are here nursed with care and attention.

Passing out of these houses to the centre walk of the kitchen garden, and then turning round and gazing towards the place just left, are seen two geometrical flower gardens; one running along each front of the houses. These are well kept, and present colours in combination that dazzle the eye of the spectator. And looking towards the vinery, a little to the right, I noticed several fine Fig trees trained against the brick wall of the garden, laden with a crop of good fruit. Then, bounding along the walk through the kitchen garden, passing an old golden-edged Holly, upwards of twelve feet high, and several young plants of *Cedrus deodara*, I reached the new carriage drive (just opposite the Hall), leading from the west entrance. It trends through groves of large forest trees; and the ground on each hand is undulating. On the left it inclines to the south; and on the right it rises to the north. The curves are graceful, and such as Nature dictated in order to give the artist the best level of the road he was about to form. On the right, a little before reaching the entrance (which is a mile from the mansion), is a spacious reservoir, from which the establishment is plentifully supplied with good water. The entrance is large. On each side is a rather ornamental lodge; and from the outward wall of the lodges a massive arch is thrown across the entrance; beneath which, the substantial wrought-iron gates, lately erected by Messrs. Thornton and Brook, of Huddersfield, are suspended from two heavy stone piers. Through these gates I passed, and found myself on the high road leading from Huddersfield to Brig House: and even here is another point affording various and interesting views of the surrounding country.—B. B., *near Halifax*.

THE FURNISHING OF AQUARIA.

THIS is as good a season as any to commence the study of aquaria; for, from this present time to the end of May, marine stock is at its best; but from June to the end of August the heat of the weather is the cause of many difficulties; and, with every care, deaths are pretty sure to occur. At other seasons, losses are rather to be attributed to mismanagement than to any hostility of the elements; for, if tanks be properly fitted and stocked, and have a moderate share of attention, their inmates will enjoy robust health, and set death at defiance. The same with the river tank; for though gold fish get affected with diseases peculiar to them much more in winter than in summer, most other kinds of stock do well. Bleak, dace, roach, and gudgeon are troublesome during hot weather; but now they are full of life and activity, and will be so till towards June, when they begin to be affected by the increasing temperature: though experienced hands find it easy to keep them all the year round.

Now, to insure ultimate success, all preliminaries must be properly arranged: and before we go into the question of live stock, it will be as well to treat of the furniture and fittings of the tanks; for many difficulties may arise hereafter if any mistakes be made at the outset. Let me suppose you have a tank to your liking, and purpose stocking it with marine objects. The vessel must first be well seasoned, and made quite clean inside, and must then be placed where it is to stand permanently. If a Warington, you will require a good collection of rough rockwork, but no cement. I have lately fitted one so much to my liking, that I will describe the process. I first got a quantity of flat pieces of granite—chippings of the blocks used in paving the London streets. These sparkle beautifully under water, and are of a quiet, yet cheerful, tone as to colour. By means of a hammer these were broken into suitable sizes and shapes, and built up at the sides to hide the slate, and a layer of them along the sloping back next the bottom. Then, the remainder of the back is covered with fragments of honeycombed limestone, empty serpula shells, very old and picturesque oyster shells which have been mined by serpula, large whelk shells that have been crusted with similar parasites, and small chippings of granite. Here and there vacancies were left in which to insert blocks, on which were tufts of Ulva, Enteromorpha, &c.; and then small shingle was showered down to form an irregular beach next the front plate of glass. When filled with sea water its appearance is that of a semicircular rock-pool, rough and jagged; dotted with green and crimson vegetation; and the tone of the whole dark and natural. Fancy shells and rock-crystals I abhor; but if the taste of the operator incline that way, there is no practical objection to their use.

One great advantage of this kind of vessel is, that the use of cement is entirely obviated; and the exercise of a little taste and judgment will produce a beautiful effect, as well as an arrangement in every way suited to the habits of marine creatures. But in the fitting of other tanks, where there is no sloping back, an arch, or grotto, may be thought desirable; and then it is hardly possible to do without some binding material. The best Portland or Roman cement must be used; only as much being mixed as can be applied at once before it sets, and the pieces of rock worked into their places; so that, when the arch is formed, it will stand independently on any flat surface; and, being in one entire piece, admit of lifting in or out, as may be desirable. Here it is that a difficulty will be experienced if an arch on a large scale be constructed; for its weight will be enormous. To obviate this, some of the dealers construct their rockwork with gutta percha, imbedding a stone in the base of it to give it sufficient solidity. But the best of all materials is rough pumice-stone, which is very light, quite innocuous, and of a suitable grey colour. All cemented work should be well seasoned by soaking in water for two or three weeks before being placed in the tank; for salt water acts powerfully in extracting whatever free lime or other salts may be contained in it. Empty serpula shells, oyster and whelk shells, pumice-stone, and pieces of branching coral are the best of all materials for ornamenting the bottom and sides of marine vessels; and a simple bold block of granite, placed in the centre on a beach of shingle, is, however, in my opinion, better than any built contrivance; or, if an arch seem requisite, some large flattish slabs of rough stone may be piled up in the form of a cromlech without any cement whatever; but they should be fitted before the beach is laid down, so as to stand firmly on the bottom of the vessel, and rise naturally out of the shingle.

In fitting river aquaria the same principles are to be ob-

served of keeping from contact with the water any material which might communicate to it soluble salts, or metallic oxides. But here a point arises which is of great importance, viz., whether soil of any kind need be used for the plants to root in. From long and watchful experience I can say, without hesitation, that mould is always injurious, and always unnecessary. Two or three inches of well-washed shingle, or small pebbles of any kind, will answer for almost every kind of vegetation introduced into such vessels. I at first used peat and loam; the plants rooted freely in it: but there was such a tendency to the growth of confervæ, and occasionally the water would produce such immense quantities of the sporules of the lower kinds of vegetation, that I gave it up, and took to sand. In this the plants did just as well as in mould; but the purity of the sand could not be constantly ensured; and then I tried pebbles only, and have never had trouble with a river tank since. Seeing how most of our free-growing aquatics delight in deep, rich mud, one would hardly expect them to find sufficient nourishment by rooting among pebbles only; but, with few exceptions, they increase, and blossom to perfection: and I should recommend all who keep river tanks to abolish the use of loam and sand entirely. I have had the beautiful Flowering Rush (*Butomus*), the Ranunculus, a quantity of the Water Plantain (*Alisma*), all the *Potamogetons*, and even *Vallisneria spiralis*, do as well as to flowering, and, in many cases, ripening seeds, as if grown in the richest soil—a fact which proves that the water alone furnishes them with sufficient nourishment; though the gradual deposit of animal and vegetable matters which takes place, no doubt supplies their roots with some support.

With one or two more observations, we may quit these preliminaries, and enter on the more gratifying duties of the aquarium. Every tank, having glass at the back as well as the front, will look better when fitted, if a sheet of blue paper be pasted all over the side which is to be next the light; or, if that side be fitted with glass stained of a blue or green tint. All materials used in the construction of rockwork, should be well washed and scrubbed; and blocks of stone, on which animals or plants have perished, should have the remains well scraped off, and the surface made thoroughly sweet and clean. The shingle, which should be small, should be washed again and again, till the water ceases to become the least cloudy; and a little should be reserved for a final sprinkling when all is finished; and every material, in which lime is an ingredient, should be avoided as likely to cause turbidity, and affect the health of the animals. Algæ, or fragments chipped off soft limestone rocks, are often sold for aquaria, because easily obtainable: but they are decidedly objectionable; as are also the specimens obtained from soft red sandstone, which rots away in the vessel, and forms an obnoxious sediment.

In planting a marine tank, it will be found advisable to insert the blocks containing Algæ, so that the actinea will not be likely to take up their positions on them. They are very apt to cling to the fronds, and cause their decay; and therefore some bare spaces should be provided in which to place them, so that they may speedily attach themselves to the shingle, or to bare rocks, or the glass sides. In a Warington tank, the tufts of vegetation may be placed among the rockwork of the sides, and half-way up on the back, better than at the bottom, which should be kept as clear as possible; for, though the creatures will travel about a little at first, they are most likely to attach themselves where placed in the first instance. In planting a river tank, the general effect need only be studied. All river plants that root or form buds at joints on the stem, such as *Potamogeton*, *Anacharis*, *Callitriche*, *Ranunculus*, *Myriophyllum*, *Chara*, &c., do as well without roots as with them. You have only to take a tuft, or even a few sprays, tie their ends together with a strip of bast, and attach a stone to keep them down. Then, holding the tuft in the left hand, lower it into its place, and pile a handful of pebbles to fix it; and so on till you have planted the vessel to your liking. Then shower in the shingle to make a regular bed. Plants that do not form joints, such as *Butomus*, *Nympheæ*, *Alisma*, &c., must have their fibrous roots spread out on the slate or glass bottom, and covered with a few inches of pebbles in the same way; and when all are planted, water them with a large fine rose of a watering-pot, till the water is a few inches deep in the vessel; after which, you may pour it in without the rose without fear of washing any of them up.

Just as there are exceptions to all rules, so there are exceptions to the general use of pebbles only; and the large fleshy roots of Lilies, really do need soil to root in. The plan we now adopt with such plants, and strongly recommend to others, is to plant them in suitable soil in common garden pots, to surface these pots with fine pebbles, and sink them into the bed of shingle, till the pot rests fairly on the slate bottom of the tank. Such plants are very unsuitable for bell-glasses, because they require a rather deep loamy bed, and plenty of elbow room; but in large rectangular tanks, they have a noble appearance when they spread out their fine foliage on the surface, and produce their gay show of flowers; and by growing them in pots they can be lifted out at any time; and if tender, wintered safely, and the tank freed of them during the period when they are unattractive. Last summer, I flowered the Forget-me-not, the Brooklime, fine specimens of Water Lily, the Flowering Rush, and *Alisma Plantago* in this way, and got rid of each as soon as it ceased to be attractive; but all, except the Lilies, would do nearly as well without soil as with it: and, as plants are so easily procurable, it is better to have them pretty well grown at once, than to attempt to raise them; though, of all those that have a jointed habit of growth, the merest fragment, well secured at the bottom, is sufficient to form a good plant in time; and if only a small portion of any scarce plant can be got, it is a good plan to plant it in a small glass jar by itself, till it attains sufficient size to be transferred to the tank.

The tank here figured is one of a new construction, introduced by Mr. Hall, the well-known dealer in aquaria, of 75, London Wall, London. It is mounted on a cast-iron pedestal, and

turns freely for the examination of its contents, or for presenting its several sides in succession to the light. It is called the revolving tank, and its appearance is extremely elegant.—S. H.

CYCLOBOTHRA MONOPHYLLA.

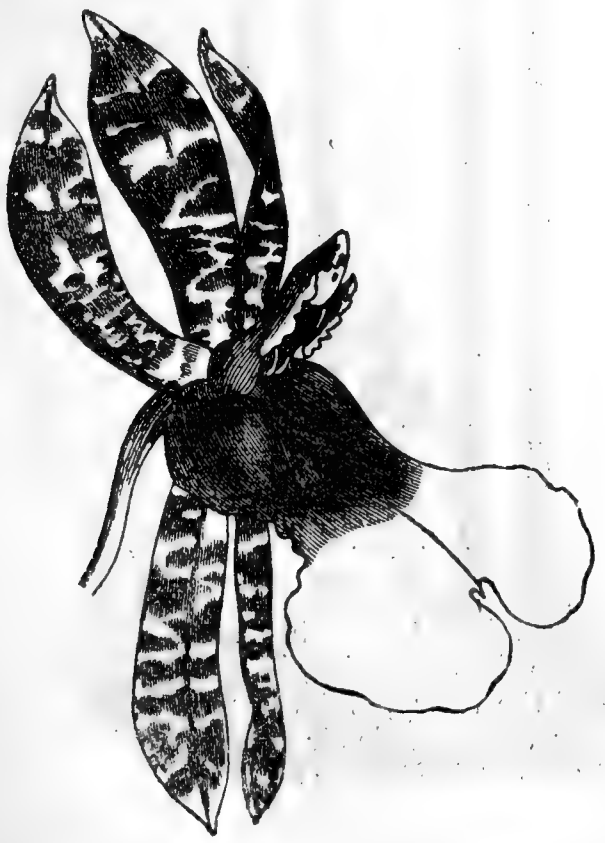
BROUGHT home by Mr. Hartweg, in June, 1848, and said to have been collected upon the Sacramento Mountains, where it is very scarce.

A bulbous plant, with a long coarse membraneous neck, extending three or four inches under ground. Stem three or four inches high, slender, bearing a single linear-lanceolate leaf, glaucous on the under side, and about three times its own length. The flowers are from two to three in a corymb, with curved peduncles, longer than the very narrow bracts; they are smaller than is usual in the genus, and of a uniform bright yellow. The sepals are ovate, and very sharply pointed; the petals are of a similar figure, but not so acute, and are covered with coarse hairs.

It is a hardy little bulb, which requires the same kind of treatment as *Calochortuses*. It should be grown in a light soil, composed of sandy peat, loam, and leaf mould, with plenty of sand. It is increased by offsets from the old bulb. The proper place for it is an American border, where it should be left undisturbed.—(*Horticultural Society's Journal.*)

MILTONIA KARWINSKII.

RECEIVED from Mr. Hartweg, and supposed to have been collected at Oaxaca, in 1839.



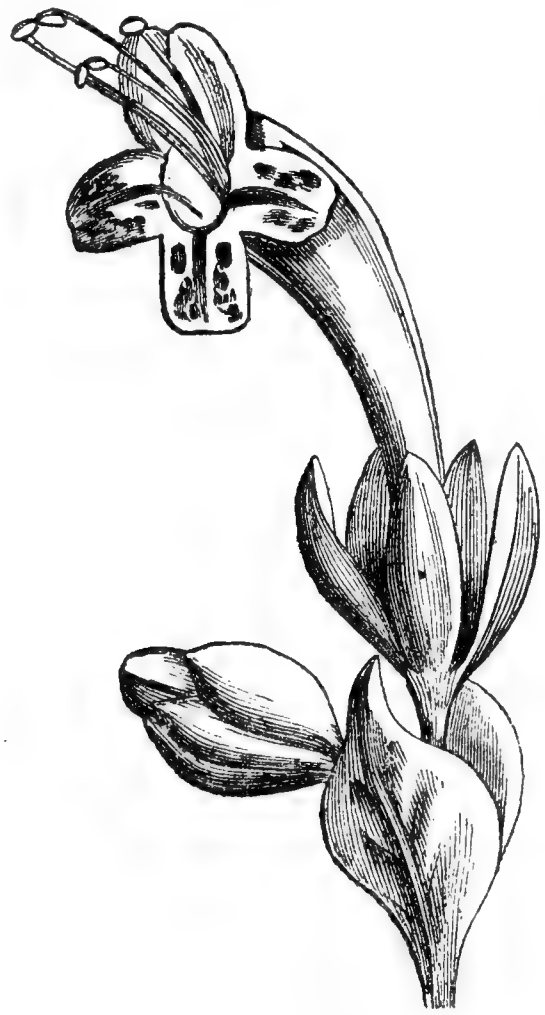
This beautiful plant was originally described from a small dried specimen, brought from Mexico, by Count Karwinski; and was then referred successively to the genera Cyrtochilum and Oncidium: it is, however, a true Miltonia, and one of the finest plants in cultivation. Imagine a rod three feet long, stiff, and nearly upright, being covered for three parts of its length, at intervals of an inch and a half, with large, gay, white, purple, yellow, and brown flowers, fully two inches and a half in diameter; and an idea will be formed of this charming species. The sepals and petals are bright yellow, barred and spotted with brown; the lip is white at the point, deep violet at the base, and blush in the middle space. The column is nearly white, and adorned by two serrated hatchet-shaped wings.

It requires to be treated like an Oncidium, and to be grown in rather a cool temperature, in pots filled with fibry peat, and half-decayed leaves, well drained.

It is one of the most beautiful and distinct Orchids in cultivation.—(*Horticultural Society's Journal.*)

ÆSCHYNANTHUS PAXTONI.

RECEIVED from Messrs. Henderson, of the Wellington Nursery, St. John's-wood Road.



This plant, which bears in gardens the name of Æschynanthus Paxtoni, does not appear to have been described. It has a large convex, dark green even leaves, which are slightly marked on the under side with impressed dots. The bracts are of unusual size, thin, pale green, slightly stained with red. The sepals are remarkably large and broad, and are divided to the very base. The flowers are dull red, with a flat limb, divided into four nearly equal lobes, which are square at the end, as if they had been cut off. It seems to be most nearly allied to *Æsch. ramosissimus* and *Griffithii*.

A trailing half-shrubby stove plant, growing freely in any light mixture, such as leaf-mould and broken crocks, with plenty of drainage. It also may be grown fastened to a rough block of wood, and surrounded with moss. It requires a moist atmosphere while in a growing state; but afterwards should be kept nearly dry. It is easily increased by cuttings.

It is a showy kind, but not so handsome as the smaller species.—(*Horticultural Society's Journal.*)

NOTES FROM THE CONTINENT.—No. 17.

FOLIAGE BEDS.

WHEN we speak of plants grown for their fine foliage, an Englishman's ideas usually fly away to his stoves and greenhouses; but many of the inhabitants of these are, in Ger-

many, planted out during summer, and produce a most glorious effect; either as single plants on the turf, or planted in beds, they form quite a feature in the generality of gardens. I believe it is quite practicable to carry out this plan as well in England as here. Indeed, it has already been found to succeed in several instances; and there is scarcely a garden, however limited, in which it might not with advantage be tried. I will mention some of the principal plants used here.

Rhubarb, so commonly planted in English gardens for culinary purposes, is here only used as a foliage plant; but attention has lately been drawn to its gastronomic value by an article in one of the best horticultural periodicals of this country, by a clever young German gardener, now in England. None of the larger varieties appear to be here; or, if so, the dry atmosphere keeps them from attaining their usual size. *Gunnera scabra* is a Rhubarb-like plant in habit (the leaf stalks are said to be used for a similar purpose by the natives of Chiloe). I have seen the hard sinuated leaves four feet across; but they will attain double that size. As it belongs to the natural order of which the Ivy is the type, the flowers cannot be expected to be very fine; but its foliage is very striking. The Egyptian *Papyrus* succeeds here admirably, if copiously supplied with water, and forms a most elegant object standing alone upon the turf; but, perhaps, it appears even to greater advantage in its natural position by the side of a sheet of water. In one garden I saw it planted by the side of a walk alternately with *Humea elegans*:—by no means a bad idea. The New Zealand Flax (*Phormium tenax*), looks well planted out where it can fully develope its gigantic flag-like leaves. *Musa Cavendishii* does moderately well for three or four months, and has quite a tropical appearance. Those Palms which I have seen tried were generally failures—the foliage becoming yellow. The Castor Oil plant is already used in your gardens; but I never saw it in such perfection as here. It should be raised from seed, or cuttings, in autumn; or the old plants cut back, lifted, and kept in a cool place during winter, to be planted out again in the spring. Several species of Canna are planted out, and produce a fine effect. *C. discolor*, though it rarely flowers, is the best, from the dark brown colour of its stems; the leaves, too, are tinted with the same colour. I never saw a finer group than that produced by a large circle; the centre of which was occupied by the variegated variety of *Arundo donax*, surrounded by several plants of Indian Corn; then a circle of *Canna discolor*; then one of *C. Indica*, flowering freely; and the edging formed of alternate plants of *Xanthosoma violacea* and *Begonia discolor*. The Xanthosoma is a Caladium-like plant, with purplish stems.

We have yet to learn how many tropical plants will do well in the open air in summer; and the sooner we begin to experimentalise upon them the better. The way with these Cannas, Caladiums, and such like, is to keep them dry during winter under the stage of a greenhouse, or any convenient place; start them in a hotbed in spring, and then plant them out in a bed that has been dug out to the depth of two feet; some dung thrown in, just to give them a little warmth to start with, and the bed filled up with refuse potting soil, or the ordinary soil of the garden, if not too poor. Almost all kinds of soft-wooded stove plants might be treated in this way, and would be so much improved as to be scarcely recognisable. I noticed this as particularly the case with *Impatiens platypetala*, and its white variety.

The Pampas Grass (*Gynerium argenteum*) is, unfortunately, not hardy here. There is a peculiar grey, broad-leaved grass, called *Elymus glaucus*, cultivated here; as also is *Saccharum Maddenii*, which grows to about five feet in height, but is very much more slender and graceful than the Sugar Cane, its near relative. Then there is the dwarf, plume-like-flowering *Panicum purpureum*, and many other ornamental Grasses. —Karl.

DIFFERENCES IN PRACTICE.

Having gone through the ordinary routine of gardening under several head-gardeners, and each having his respective opinions and modes of practice, I have often wondered why there is not more unanimity of opinion, and more uniformity of practice amongst them. For instance, in the formation of the bottom of a vinery floor, and the outside border; and also the making-up of a border on the south side of a wall for the growing of Apricot, Nectarine, and Peach trees; the management of Pines, Vines, &c., anything but unanimity of opinion, or uniformity of practice, seems to prevail.

Again, some of the most successful competitors at the leading horticultural shows advocate the necessity of concreting vinery floors, and the outside borders; also the borders for growing the tender sorts of fruit trees. Other gardeners condemn these practices. Let me state my own opinions and observations upon the subject.

The gardener must use similar means that the farmer uses to dry "a wet, cold subsoil." Hence, when a gardener is compelled to select a low-lying site for a garden, he must make the drying of the site for the house and kitchen garden, his object, first worthy of attention.

Since many farms, each several hundred acres in extent, are often drained at the sole expense of the tenant-farmer—each drain not less than three feet in depth—no gentleman's gardener, who is appointed to superintend the making of a garden, should allow drains to be cut (provided he has sufficient level to carry off the water), less than four feet in depth. If gardeners were to pay as much attention to the drying of a few acres of ground for a kitchen garden, an orchard, &c., as tenant-farmers do to the drying of their farms—which is sometimes done at the sole expense of the farmer, even within a few years of the expiration of the lease,—I unhesitatingly assert, there would be seldom any necessity for concreting the bottom of a vinery floor, or outside borders of any sort. That a kitchen garden and an orchard may be trenched to a sufficient depth, the drains should not be less than four feet in depth.

Gardeners are sometimes compelled to erect vineries in the lowest part of a garden which has a north aspect.

Suppose a lean-to vinery to be fifteen feet wide within the walls, and the outside border also fifteen feet wide, and a walk to run parallel with the south side of the border. The ground required for the base of the floor and border should be staked out, and the surface soil excavated, and laid in some low part of the garden.

Since the vinery is in the lowest part of the garden, the main drain might pass along in front of the south wall, or along the south side of the border, which should not be less than four feet and a half deep. Were the "cold, damp subsoil" cut out something like a ridge-and-furrow roof at right angles across the border and vinery, a pipe laid in the bottom of each furrow, and clear rubble, or large gravel stones, laid, say eighteen inches above the tops of the ridges; the supply of old bricks, or gravel, regulating the depth the ridges and furrows should be cut.

Experienced practical gardeners consider two feet of compost for the roots of the Vines sufficient depth for the Vines to grow in. The most suitable compost is said to be good turfy fibry loam, leaf mould, road scrapings, good rotten manure, lime rubbish, bone dust, and a little charcoal; but the number of correspondents who ask, through the medium of horticultural periodicals, what is the most suitable compost, shows that every gardener has his own mode of practice.

Were a dry-rubble wall to be built over the main drain-pipes as high as the bottom of the gravel on the walk—which generally passes along the front and round the ends of the vineries, and the outside border and the bottom of the vinery floor—excavated, and filled up as described above, I ask those who advocate the necessity for concreting, to prevent "shanking," by the roots of the Vines penetrating into the "cold, damp subsoil," would the above not obviate the necessity for gardeners having recourse to concrete as a substitute for efficient drainage?

Were a perpendicular pipe fitted into the main drain-pipe, and brought up above the ground-line—which might be ornamentally placed in a line with the Box edging—and a pipe also fitted into the drain-pipe, in the bottom of the furrow in the inside of the vinery, and the pipe brought up above the floor-line, the atmospheric air would circulate throughout the floor; and the outside border of a vinery so constructed, somewhat similarly to common air through a naturally-porous soil, which is admirably adapted for agricultural or horticultural purposes.

Some of your readers may think the roots of the Vines might as well be planted in a hungry, gravelly soil. Since

heathery turf is so plentiful, the rubble could be covered over with such turf, and the top spit of any soil, which is considered good for growing Melons with anything like success, above the heathery turf, previous to putting on the compost for the Vines. A vinery so constructed, at a proper height above the "cold, damp subsoil," would obviate all necessity for having recourse to an unnatural process of imitating a tropical climate.

If a gardener were compelled to erect a vinery, or a peach-house, on the margin of a lake—the floor line of the vinery to be on a level with the surface of the lake—the ground might be excavated four feet deep, and obtuse angles of some durable substance built across the bottom of the vinery floor and border, and plastered over with Portland cement, and a water-tight wall built around the foundations of the vinery and the outside border. Were a water-tight tank sunk to a sufficient depth, as a receptacle for the water which falls on the outside border, and the superfluous water used in vineries, and no other water allowed to enter the tank, very little water would require to be pumped out of the tank by a hand-pump.

Allow me to state, through the medium of your paper, that is the only way a gardener, whatever his practice, experience, reputation, and position may be, can be justified in having recourse to concrete as a useful auxiliary to gardeners as a substitute for efficient under-ground drainage.

One of my late masters had the superintendence of remodelling a garden, erecting houses, &c. The site of the garden was a little above the sea level. The bottom of the vinery floors and borders was drained to a sufficient depth. All the surface soil was excavated nearly as low as the top of the drain-pipes, and a foot of rubble laid over the peach and vinery borders. Air-drains were made by fitting perpendicular pipes into the main drain, and those which crossed the border.

The Peach trees were prematurely excited, and afterwards received a check by frost. As an experiment, a few were covered with glass. Those that were covered with glass soon recovered themselves; but the tops of those that were unprotected soon died off. The gardener, knowing that the roots of the dead trees were still in a healthy, vigorous state, got a gardener, whose opinions on anything connected with gardening few would attempt to dispute, to assign the cause of the Peach trees dying off at the tops. The referee at once said, "This 'damp, low situation' is the cause of it." The gardener, being confident that atmospheric influences over which he had no control were the cause of it, got men to dig down amongst the roots, to show that they were still healthy. The referee acknowledged that the roots were healthy; they being planted on the same border, and the same day, that those which, by glass protection, had recovered themselves, and were then bearing abundant crops of fruit. So much for the diversity of opinions, and the different modes of practice among practical gardeners.—An Under-Gardener.

THE QUALITY AND RIPENING OF PEARS.

We need hardly observe, that the peculiar quality of different kinds of Pears, as well as of Apples, varies much with the season: but it may be less known, that some kinds which are generally good in some parts, are often bad in others. Hence arise complaints against the best lists of Pears, though they are got up by men of good judgment. Some sorts are marked excellent, that are only so in some districts; varying much in quality according to situation, and the seasons. For instance, Mrs. Loudon states, that the *Winter* or *Black Achan*, is an excellent Scotch variety; and we know it to be so in that country, but it is really worthless in this. The same may be said of the *Crawford* and *Green Yare*, which are both good early Pears in Scotland.

Newer kinds also may be named, such as the *Dunmore*, and *Bon Chrétien Fondante*; the former is apt to be mealy, and is only at best a second-rate Pear that ripens with superior sorts: the latter is always bad with us, both in cold and hot seasons. Last autumn we gathered some fruit of this sort, produced from grafts from Jersey, about two weeks before it was ripe, which was equally bad and mealy as the rest of the crop that hung the full time. We mention this more particularly, for the name shows it to be a good Pear in Jersey: and how comes it to be bad in this country? We mean *mealy*, and regret having no better term for it, which is the fault with the Scotch kinds mentioned above.

In a former paper we may have said it was caused by the fruit losing its acidity by heat; but, as Jersey is a better climate than this, the fact that some kinds of Pears from that country are apt to be *mealy* and flavourless when grown here, only tends to confirm our further remark, that the real cause was hard to explain. We should here note, that the *Bon Chrétien Fondante* Pears were on a wall of south-west aspect, and might be more affected by the hot sun, than standard Pears in Jersey. Also, that *Chaumontelles* on the same tree last season, were nearly equal to those of Jersey. The former is a smooth, greenish Pear, and ripens earlier than the latter; which, we need hardly say, is of a russet brown. This leads us to think, that the sun has more or less power on both Pears and Apples, as they ripen earlier or later; and with reference to their colour and the thickness of their skins. Be that as it may, we trust enough has been said to show that the quality of Pears differs much with the climate, and that, strictly speaking, the fault is not in the lists. As a remedy however, it would be well if advertisers were to state the good kinds in their range of districts, instead of copying from lists wrongly made to suit all parts of Britain, which is a sort of quackery in the matter of fruit. They should also state more correctly the time when Pears come to maturity. The lists are again much in fault in this respect, owing to the same causes. But we may observe, that as some of our best Pears vary much in *keeping*, it is rather difficult to state their exact time of maturity. Amongst them are the *Beurré Rance*, and *Knight's Monarch*, both of which will keep till March; while some of them often ripen in December, and continue to do so during winter. But that peculiar quality is greatly in favour of both; and it only requires more of them to be grown in order to keep up the supply.—J. Wighton.

QUERIES AND ANSWERS.

VINES IN POTS—VINES IN A PIT.

(*To a Correspondent.*)

The whole subject has frequently engaged our attention, and the culture of Vines in pots has been given, from the insertion of the cutting to the gathering of the fruit. The difficulty of advising you arises from the fact of not knowing exactly what you want with your pit, chiefly in summer. There can be no difficulty in growing from two to six Vines in pots in your space. With two, there would be but little shade to the plants you might grow beneath them; with six, the roof of the pit would be covered. One thing is certain, that if you merely keep plants in winter, and forward bedding plants in spring, you could do nothing in the way of forcing Grapes; and, therefore, could not expect ripe produce until the end of August to the middle of September; though a few days might be gained from having the plants in pots. For your purpose, the *Dutch Sweetwater* would be the earliest; but inexperienced persons have a difficulty in setting the blossom; and, therefore, we would recommend the *Royal Muscadine* and the *Black Hamburgh* as most suitable. If you resolved upon trying, you could not get the plants too soon. Perhaps, like another correspondent, you would like to know the price, and this we are unable to give for strong, young fruiting plants; though such plants as those spoken of at Shrublands would be cheaper at 25*s.*, than common young fair plants at 5*s.* These plants, to fruit next summer, should be in pots from fourteen to sixteen inches in diameter, and must not be repotted, but merely top-dressed, and kept in a medium state as to moisture, and from frost in winter, and be placed in your pit by the beginning of March, or thereabouts. If such plants bear a heavy crop, it will thoroughly exhaust their energies; and they

would do little or no good next year. Fresh plants, therefore, would have to be secured. Or, suppose you got two fruiting plants, you might also procure from two to four young plants, cut them down to one bud from the base, place them in the pit along with the others, and shift from one pot to another until the roots filled the above-sized one; giving every care to the young shoot; doing everything to encourage strength by manure waterings; exposing the foliage to light; allowing laterals to grow a little at first, to encourage strength and vigorous root action; and then, as autumn approaches, shortening the laterals gradually, and ultimately removing them; leaving nothing at last, about September, but the large leaves at every joint, which must remain, and be fully exposed to light, until they turn yellow; by which time the wood will be firm and ripe: and the stronger the wood, the shorter jointed it is; and the rounder and more prominent the eyes, the more secure will you be of a heavy crop of fruit. To meet such a continuous supply in such circumstances as yours, where little or no forcing can be given, a few plants from buds should be raised every year, by inserting each in small pots, in the spring, and giving them the benefit of a hotbed to start them. These, cut down the following spring, may be treated as the above, and then will fruit the third summer. Where there are plenty of means, buds inserted in heat in January and February may be so grown as to produce fruit in fifteen or more months; but that you could not do. You will see, then, that the general system with Vines in pots is to grow one year, and fruit the next; and then expect little more from the plants. A *box* of similar size would be neither better nor worse than a pot; but if your box were three or four times the size of the pot, then the Vines in them, by not taking an extra heavy crop, would produce every year; as there would be plenty of sustenance to make wood, as well as to ripen the Grapes.

We would not wish to damp your enthusiasm at all in the matter of growing Grapes in pots; but we think the following is worthy of your consideration:—Some time ago we received thanks from a gentleman for giving advice as to getting Grapes in a pit similar to yours, only it was three or four feet longer, and deep enough to have head-room inside, if desired: though, in winter, a moveable platform, in a number of pieces, furnished the opportunity for placing bedding plants as near the glass as was desirable. He wished to have Grapes to come in without forcing, or that could be forced if he chose to apply the heat of a small flue to forward things in early spring. The width of the pit was six feet—a little more than yours, yet too short for Vines to grow upright against the rafters. A space of three feet in width was shut off by a four-inch wall, with a nine-inch pier in the centre of each end of the house. Holes were left near the base of the wall to secure drainage; the bottom inside being paved like the floor of the pit. Along the bottom of these little three-feet-wide pits was about a foot of open rouble, finished with fine clean gravel; and on that were placed two feet of sweet fibry brown loam, sprinkled with a little leaf mould and brick rubbish; and each pit having about a bushel of charcoal, and three quarters of a bushel of decayed broken bones, in rather large pieces: all being well mixed, without breaking down the lumps of the loam in any great degree. When this was placed in the pit, there was plenty of room left for future top-dressings; and some boards being placed over it, plants were set on them that required little water in winter. The pit being used merely for keeping the plants in winter, the average night temperature from fire-heat never exceeding 45°; and thus there being no danger of starting the Vines, they were planted, two at each end, in the month of November; and under such circumstances, though the buds moved not, it was gratifying to find, on inspection, that the roots were running freely in the fresh fibry soil, though that was not moist, yet not dry.

The reason why the Vines were thus planted in a bed inside each end of the pit, was the opportunity thus given for training the Vines on two wires, placed longitudinally along the roof. Two wires were quite sufficient for the four Vines; inasmuch as it had been determined on, that each Vine, when established, should be destitute of growth for the half of its length next the roots: in other words, that the stem of each Vine, next the roots, should be bare for seven or eight feet, and the other half be furnished with bearing-wood. So that the fruitful part of one Vine was trained along, or fastened to it—the bare part of the stem of the Vine, planted opposite to it at the opposite end; besides the convenience of thus having two fruiting longitudinal lines in such a narrow width. Right or wrong, we fancied we could gain advantages from this length of bare stem in the house, which would have been denied to us, if each of the four Vines had only run half the length, and met in the middle of the house, instead of now passing each other. Various causes have prevented me closely studying, at one sitting, Mr. Beaton's articles on the pruning, &c., of the Vine; and, therefore, I am doubtful whether the plan adopted would be in unison with his phytological investigations; but as I would wish to be precise, I will mention the minutiæ of management of these Vines; and, as they were as nearly alike as possible, the outline of the modes adopted with one Vine will suffice. On examination, after planting, it was found to be pretty well ripened for a length of four feet. To that length it was pruned back. The joints were rather thickly set; and rather more than every alternate bud was cut off. There seemed to be a great number of small buds near the collar of the plant (the part whence root and stem proceed in opposite directions); and to the height of a foot or so, every bud that could be perceived, was picked out with the point of a penknife. As March got on, the buds broke strongly. The terminal bud and its nice shoot were encouraged. All the shoots from the other buds left, were stopped when three or four inches long. We might have removed all these buds at once; but we imagined that a few strong leaves during the summer, would help to increase the size and girth of the stem there, whilst the main shoot from the terminal bud was growing freely, and increasing in length. That we may not have to come back to these buds and their shoots again, I may mention that little encouragement was given to laterals from them. As soon as buds could be detected in the axils of their leaves, they were picked out, so that as much organisable matter as possible should be stored in the stem. By August, some of these shoots were removed; and by the beginning of October, none were left. Thus, the length of the old stem was as bare of shoots as a walking-stick. Thanks to surface dressings, manure waterings, and frequent stirrings, the young shoot got to the end of the house before the end of autumn; and, by means of a little fire-heat in September, was well ripened, with the exception of a couple of feet, or so, at its point; to which place it was cut back in the winter pruning. But we have not said anything of the treatment of this main shoot. As it grew, laterals were produced at each joint, and these were stopped when they had made two leaves, and were not permitted to grow long beyond that. Meanwhile, as the buds became prominent in the axils of the main leaves and these laterals, they were all picked out, until the half of the length of the house was reached

This gave a rod bare of buds for half the length of the house. The other buds on the shoot were, of course, left for future fruitfulness. The laterals for the whole length were treated alike. The main leaves, even on the disbudded part, remained until they fell off, when they turned yellow. A commencement in removing the laterals, at the ripest end of the shoot, was made in September; and all were removed by the middle of October. Next spring each Vine showed plenty of fruit; but only four bunches or so were taken from each. The spur system has been adopted, and there has been a good crop ever since. The roots have a fair allowance of weak guano water, &c., in summer; and every autumn they are top-dressed with fresh loam and broken bones, and some superphosphate of lime. We know of other instances in which Vines are planted at the end of such pits outside, with an opening in the wall-plate for the stem to be in; and which, after the fruit is gathered, may be taken outside at pleasure: or kept outside, if desirable, wrapped in a cloth or straw bands, until the buds begin to swell, when it is introduced beneath the glass. Either of these modes would incur less trouble than growing in pots, but they would not be equally interesting.

R. Fish.

COVERING A VINE-BORDER WITH GRASS.

"I have read carefully most of the valuable papers upon Vine borders, &c., in The Cottage Gardener of the last two or three years; but I do not find an answer in these for what I wish to know, viz., 'Whether it would answer to cover a Vine border, and lay it down in grass, after having thoroughly drained and concreted the bottom, filled in good compost, and planted the Vines?' The border is fourteen feet wide; and grass would come in better than beds, with the rest of the ground about it."—A Subscriber.

[There can be no doubt of the plan answering. Several instances have come under our observation; and three or four cases have been managed according to our suggestions. Some of these may be of use to you; though, we imagine, that from your speaking of draining and concreting, you are pretty well conversant with the whole affair. We presume your border will not slope greatly off the level; and, therefore, draining will be all the more important.

If the level inside the house is as high, or rather higher than the outside border, then it would be best to plant the Vines inside the house, as then the stems would want no protection; and if the front wall is built with arches, the top of which is only a few inches below the soil, there will be no hinderance to the free outgoing of the roots. If it be necessary to plant the Vines outside, each stem should be secured against the wall, by three sides of a wooden box stuffed with sawdust, and a bevelled top to keep all dry. And the use of these boxes being at once apparent, they will be no eyesore to connoisseurs in fitness and beauty; though, as they constitute no ornament in themselves, it would be as well to avoid them, by planting inside, if possible.

Before planting, however, the depth of the border is the first thing to be considered. Presuming that you have from six to twelve inches of open rubble above your concrete; then, supposing that you meant to force your Vines pretty early, say to begin from Christmas to February, then you ought to have not less than two feet and a half of open fibry compost. If, instead of forcing, you merely mean to let your Grapes come in almost naturally, then from eighteen to twenty-four inches will be sufficient. In a shallow border, unprotected except by turf, if you attempted early forcing, you might run the risk of losing a crop, by the want of reciprocal action between roots and branches, in very cold weather. If the roots were deeper, they would suffer less from the radiation of heat from the surface. The deeper they go beyond two feet and a half, the safer would they be from the cold; but the more likely would the Vines be extra luxuriant at the expense of contracted fertility. If forcing be not contemplated, then from eighteen to twenty-four inches will be sufficient.

The formation of the border also requires consideration. Fibry brown loam should be preferred, kept open by a good allowance of old brick rubbish; and even pieces of chalk and charcoal; as Grapes are generally the best flavoured, when the roots have access to calcareous matter. Except when planting, (when the roots may have a little road-drift, and leaf mould about them), we would put little or nothing in the way of dung, or leaf mould, in the compost. Unequal sinking, extra luxuriance at first, and starvation afterwards, would be avoided. The manure given should be of a very lasting character, such as broken bones; and the oldest of these should be placed nearest the young plants, and the freshest at the outside of the border. If circumstances permit, half of the width of the border might be made at first, and the other half added at several times afterwards. This, however, we fear, would break in upon the neatness.

It is amazing how little watering such a border will require; but means must be provided for giving it without soaking the grass on the surface, or interfering with the general neatness. It would be easy to have a pipe at the end of the drain, to plug that up when necessary. Round pipes may also be sunk upright in the border, with a green-painted plug in the top, so as hardly to be perceived on the grass; and examining the earth at the bottom of these will always enable you to ascertain the dryness and moisture of the soil. In these, common and manure water may be poured, so as to communicate at once with the bottom of the border; so that, the drain being stopped, the moisture will rise by capillary attraction; or it may be diffused through the soil at a depth, say from six to eight inches from the surface. Though it is desirable to be able to do this, yet, as already remarked, when a border is so turfed over, it will not be very often necessary. A few pipes thus left with their tops shut will enable you to judge of the state of your border at any time, as respects moisture; and heat, too, if you place thermometers in them.

The turfing should also be a matter of consideration. Choose turf with fine soft foliage, as the roots of such do not go deep. To prevent, in some measure, the grass growing too strongly, let the turfs be cut rather thin, and mix a couple of inches of sand with the poorest of the compost for a surface. In general seasons, the last mowing should take place shortly after the middle of October; so that, if the border be not rendered unsightly, it may be rather longer than the rest of the lawn during the winter; as, the longer the grass, the better will it protect from cold the soil beneath.]

CUTTING OLD SNAGS FROM VINES.

"Some Vines have been pruned for many years on the short spur plan, and the spurs are now so long that they look ugly. Would you advise me to cut the spurs off clean to the main rod (I am afraid they will not break regularly again); or, do you advise me to carry a new rod up the rafter this next summer, and cut the present rod off the next winter? I can easily do so, for they are very strong. They have made wood this summer two inches in girth, and leaves quite like parasol leaves; and the fruit I had this summer was splendid: my employer said they were like little Apples. I cut bunches of *Black Hamburgh* nearly two pounds in weight, and *West's St. Peter's*, more than two pounds; which makes me afraid to do anything to them to injure them."—A Young Beginner.

[Most people would be disposed to let well alone. Provided you get a good regular crop, what matters it how you prune. Two years ago, we saw a very fine crop of Grapes; and the spurs, many of them, were from one foot to three feet in length: for the rods had not been renewed for twenty years; and the gardener said he rather liked them for early forcing, as, in combination with the main stem, they acted as reservoirs of nourishment to the swelling and the expanding buds. However, there is no difficulty in the way, if you wish for mere neatness and elegance as to appearance. If your Vines are as fertile as they seem to be luxuriant, then they might be all cut in close to the main stem; and you would have no want of fruit, after thinning away the greater part of the shoots, that would come from the embryo buds at the cut places. It is just possible that you may have more luxuriance than fertility; and, in that case, you could not make sure of a regular crop. As you are a "young beginner," it would not,

therefore, be desirable to adopt that plan, except with a Vine or two, merely as an experiment, and with the approbation of your employer. If you do so, remember that success will depend on not leaving a *single perceptible bud* on your Vine rod; and also in having the whole rod, or stem, in an equal temperature as the sap begins to flow. The reasons for this we need not recapitulate. If you should do so, we shall be glad to know the result. Your safest plan is just to content yourself with your present spurs for next year's crop, and grow a fresh shoot from the base to act as a future stem in 1860. In doing so next summer, leave less laterals on the bearing-shoots from the spurs, and leave them on the young-growing shoot from the base; which will thus increase in strength, whilst its free extension will keep up a free root-action, though the laterals on the bearing-shoots beside it be nearly all removed. Of course, the bearing-shoots on the highest part of the main stem will retain some laterals until the young shoot reaches them, and is itself throwing out laterals; and as this takes place, the whole of the laterals from the bearing-spurs may be removed, and themselves shortened, if there be much growth beyond the fruit. The object of this is just to have enough vigour in the bearing-spurs to mature the fruit, while much of the growing vigour of the Vine shall be centred in the young shoot. As autumn approaches, the first-formed laterals on that must also be removed, that wood and buds may be ripe, as well as strong. Before the end of the season gradually remove all the laterals.]

TRITONIA AUREA.

"I have a fine plant of the *Tritonia aurea* in the open ground, which has lately sent up six fine flower-spikes. The first frost, I imagine, will cut them off. What must I do to insure an earlier bloom next autumn?"—A. P.

[We are in the same fix just now. We sowed a large packet of seeds of this *Tritonia*, this time last year; and in May we turned out the seedlings into a loose, rich bed, without disturbing the balls; and this being the most thirsty of all the African bulbs, we gave them abundance of water regularly, through the summer. They made a rapid and luxuriant growth, but showed no signs of flowering. In October we took them up in the balls, put them into large pots, which we placed in a cold frame, and now they are as green as ever. We left out some of them, and mulched them well against the frost, and they shall have two or three folds of mats over them in hard weather, and next July and August we expect to have them in splendid bloom; but we shall not plant out the pot ones till early in May. When out of the pots, we shall repeat the heavy watering three or four times a week. Your bulbs, like our own, were too young to bloom: but cut off the flowering attempts at once, and either take up the bulbs and pot them, or make sure against frost. Water abundantly after the middle of May; and you will see, probably, a bloom worth being proud of.]

REPLANTING VINES.

"I am convinced my Vines, planted seven years, have got too deep in a rich compost—they make strong, pithy wood; and, though I get some large, showy bunches, they shank and shrivel before ripening, and are neither well-coloured, nor well-flavoured. I propose lifting them about January, choosing mild weather; placing the roots in fresh compost within six or eight inches of the surface; covering the border with fermenting materials to give the roots a temperature of about 70°; and then commencing to force about the second week of February. Am I likely to succeed? Shall I be doing right?" —Potter.

[In answering the last, we would revert to the old proverb about its being *better to do a thing late than never;* and that is pretty well all the encouragement we can give. We should have more hopes of your succeeding, if, instead of forcing at all, you allowed the Vines to break naturally the first year. The extra heat given to the border, will then be useful for securing reciprocal action. The mode you propose, and stimulating the roots (more or less injured,) before you excite the buds, are the best mode you could adopt for securing success; and if everything should turn out favourably, you will so far command it. But, if January should be too cold for performing such an operation, and if February should be snowy and frosty, you need not greatly grieve if, from such circumstances, you are forced to put off your operations to the end of September, or the beginning of October. The earth is then warm: and if the foliage be kept green and unflagged by means of shading and syringing, your border will be well supplied with fresh roots, before you think of exciting the buds. Though then you may succeed, just as you propose; you will be surer of success, if you keep the Vines late. In order that you may not be too much daunted, we would tell you that a friend of ours raised the roots of his Vines in the first days of March, covered the border with fifteen inches of warmish tree leaves, strewed with long dung on the surface to prevent them blowing about; opened the house, back and front, to the action of the weather; and, in hot sunny days threw a thick canvass cloth over the roof; thus delaying, as much as possible, the swelling of the buds. With great care in this respect, he ripened a very fair crop; and his Vines were in fine bearing condition afterwards. Let it be clearly understood, however, that replanting in autumn involves least trouble and risk; and early in autumn, while it requires more care, makes future success more certain.]

GRAFTING AND INARCHING VINES.

"Several of my Vines are very inferior; and one of my friends has sent me three or four buds on a shoot, of as many sorts as will do for replacing them, by young plants grafting or inarching. But my neighbours tell me that, though the stock and the scion are suitable, I could not hope to succeed with grafting; and I know as little about inarching. Do give me some hints."—A Young Gardener.

[There can be no question that Vines may be most successfully grafted. It is best done at two periods. Either just before the sap begins to rise, and then there will be no bleeding; or, when the scion is kept retarded, and the stock is excited into full leaf, when it may be cut over without any risk of bleeding, and the retarded scion inserted. By the latter mode, the junction takes place sooner; but, of course, it cannot be adopted where the house in which the stock is kept is not forced pretty early. It matters very little how the grafting is done, if the inner bark of the stock and the scion meet. When wood is plentiful, we prefer having a piece with two buds for a scion: the one to stand out for the young shoot; and the other to be cut through as the base of the scion. Thus, if we adopted side-grafting, we should remove piece of the side of the stock, and a similar piece from the side of the scion, with a cross cut at the lower bud for its base; and very likely we should make a cross cut in the stock too, that the end of the scion might rest upon it. Tie clay, in the usual manner, to keep out air; and place a little moss round the bud to keep it moist. This (where the stock has not previously been brought into full leaf), should be done about eight days before you expect the sap to move much; and after being done, the house may be very gradually increased in temperature. Next to side-grafting, we prefer cleft or wedge-grafting. And though, in this case, the base of the scion must be made very thin; still, we like it, however thin, to terminate where the bud stood; though we have wedge-grafted with a single bud frequently. Inarching, as respects the Vine, takes place when the shoot of the stock and the shoot of the young plant are growing freely, but have also arrived at a little consistency. For instance, if a young plant began to grow in March, and the shoot on the stock shortly afterwards, then inarching might take place about May or June, or earlier. You bring the young plant and its pot to the side of the stock. Choose where the junction should take place; remove with a sharp knife the soft skin of the shoot from the stock. Do the same with the suitable part of the young plant in the pot; tie them together, keep out the air, and keep the part moist; nip out the top of the shoot from the stock; and, as the union takes place, shorten still more the shoot from the stock. Cut half through the stem below the junction, and between that and the pot. Ere long, cut it away altogether, and also cut back, within a foot or so, the shoot from the stock; and the inarched fresh shoot will soon monopolise the whole strength of the old plant.

In your circumstances, you have a double chance, as you may try both grafting and inarching; having the latter to fall back upon, if the first should not succeed. Proceed thus with your buds. Leave two on the shoot for a scion; place the other close to the side of a small 60-pot, and plunge it in a hotbed. As soon as it appears above ground, it will begin to root; and as soon as the little pot is filled, transfer it to a larger, and so on; encouraging it to grow as fast as you can, by heat, moisture, and frequent repotting: make sure to use heated soil at every shifting, until the shoot is large and firm enough for the inarching. You thus secure a nice plant, whether you want it or not. Now, as respects the grafting, suppose you do it early, fully eight days before the sap begins to move, whether you force, or do not force. Suppose that the scion will fail—and we have met with such cases; then, ere long, a number of shoots will break from the old stem. These must be gradually removed, so as ultimately to leave only one; and that must be encouraged as the stem on which to inarch the young plant. Grafting involves least trouble: and, although, just like other grafting, a failure will now and then occur, it comes not oftener among Vines than among other plants, if the right times are chosen. If it fail, you may fall back on the inarching. Where a Vine has several stems, we have sometimes grafted some, and inarched others; and it would be difficult to say which did best.]

OLD GERANIUMS.

MY best thanks to Mr. Wm. Baxter, of Riccarton, for his most valuable testimony and aid, at page 182, in support of THE COTTAGE GARDENER, to chace and drive away the notion that young Geraniums are better than old ones for all that these are good or useful for.

I am almost certain that I saw the beginning of the *Riccarton* collection he mentions, as far back as 1828. Did they not come under the management of Mr. Robert Watson, who is now dead, soon after that date? If so, I have seen them for certain. I also saw five kinds of Geraniums, grafted on one head, in that place at the same time. But, where is Riccarton which has given the name *Riccartoni* to the best of our hardiest Fuchsias? It was a seedling raised there by Mr. Watson, was it not? The Riccarton I mean, and the only Riccarton I know, is a little out of Edinburgh, on the south side; and when Mr. Baxter gets over the "Merry Christmas and Happy New Year"—which is not an easy task in Edinburgh—I wish very much he would give us the exact measurements of some Holly hedges in that neighbourhood; and then tell the Edinburgh gardeners, that I have a rod in pickle for them, about the way they *dress up* their forced Hyacinths. I mean, padding the bottom of the leaves with moss to keep them on their legs; and "making it believe" all the while, the moss is only to hide the soil. Is that Scotch-like? or is it Scotch all over the pots and pads to boot? or what?

And, in answer to our friend Mr. Thomson, of Ipswich, page 183, about the *Lobelia speciosa*, I may have stated my doubts about that kind ripening seeds; but it was the *Ramosoides* to which I particularly alluded—which I never knew to seed. The Horticultural Society sent out seeds, two years since, under the name of *Lobelia ramosoides;* but those in my packet were quite misnamed.—D. BEATON.

TO CORRESPONDENTS.

STOP-COCKS *v.* PLUGS (*Corvus*).—We shall be glad to hear from you on this subject. Surely no gentleman will object to his gardener trying experiments founded on reasonable grounds, and having utility for their object.

DESCRIPTION OF FRUITS (*A Young Gardener*).—There is no such work. Mr. Hogg's "British Pomology" is such a book as you want; but the only part yet published, is that which treats on the Apple. You will there find about 1000 varieties of Apples described, and many of them figured.

PEARS FOR A NORTH-WEST WALL (*W. Clarke*).—The best covering you can have for your wall, will be a *Thompson's* and a *Beurré diel* Pear.

NAME OF PLANT (*W. O. D.*).—The name of your plant is *Solanum pseudo-capsicum*, or Winter Cherry Nightshade. A common, shrubby, greenhouse plant of the olden times, being introduced in 1596. Its little orange-like fruits and capsicum-like evergreen foliage, make it ornamental in the greenhouse or conservatory during the winter months. The culture of any common greenhouse plant suits it. If your Azaleas and Camellias are in good health, and going on well, weak manure water once a week will be beneficial to them.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

JANUARY 9th, 11th, 12th and 13th, 1858. CRYSTAL PALACE. *Sec.*, Mr. W. Houghton. Entries close December 12th.

JANUARY 13th and 14th, 1858. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs. Entries close Dec. 19th.

FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

FEBRUARY 10th and 11th. ULVERSTONE. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

CRYSTAL PALACE POULTRY SHOW.

FORTUNE is not so blind as people may imagine, or may please to imagine. Nor is success a thing of chance, to be bandied about. Wherever it is found to be honestly attained, then it will be seen that those who have benefited had within themselves all the required elements. We are thus "full of wise saws and modern instances," because extremes meet; and after the gaiety of Christmas we are unusually solemn and sapient. "Where on earth," says a friend at our elbow, "are you floundering?" We answer, "To Fairy-land." "And where is that?" rejoins he. We say, "To the Crystal Palace." "Cocks and hens again?" "Yes," we say, "and a glorious sight." "Well," answers he, and gives in, "I *did* enjoy the last, and shall go again." One thousand and seventy-three pens of poultry to be seen and admired—the pleasure of meeting one's friends—the tournament of Birmingham over again, within twenty minutes of London—the lovely sight of a happy crowd—beautiful gardens—the Palace—the music—all united, make this entertainment unique. It is the holiday time; the year is young and fresh; and we are sure those who may visit this Exhibition, induced thereto by our remarks, will thank us for a pleasant and a happy day. Such are not common, nor are they without their influence.

MARKINGS OF HAMBURGH FOWLS.

I WAS glad to find, by "J. H.'s" letter in your last, that breeders of Golden-pencilled Hamburghs are beginning to stir themselves as to what are the *true* points to aim at in perfecting that handsome variety of poultry.

I confess (speaking as one myself), I am quite bewildered what birds to select to send to a Show; as, of late, I see little unison in the prize birds of the principal Shows. In saying this much, I, of course, exclude such well-known points in the cock as rose combs well-piked, pure white ear-lobe, good bronzed tail, or blue legs; or same in the hen, except having pencilled tail, and neck hackle yellow buff. These are points on which all are agreed.

But which is the *true* pencilling in the hen? And is buff yellow the true colour for the cock's neck hackle? or red? or yellow almost lost in that colour? And are the saddle feathers, body, or wing-coverts, to be free from any but Vandyke-coloured feathers? and are these to be light or dark?

These are queries I cannot solve by inspecting prize birds; and now that competition is so close in this class (more chickens were shown at Birmingham than in any other class, but Dorkings and Red-breasted Game,) it is of great importance to know what are the *true* points. And if you would give us your opinion on these questions, it would help us; and still more so, if breeders were certain that Judges would go by them, if they disagreed among themselves, as, by "J. H.'s" letter, they seem to have done at Birmingham.

Why should you not give us *detailed* points of each variety of poultry? If these were also published in a small book for the waistcoat pocket it would be very useful to breeders at Poultry Shows, and to amateur Judges at small local exhibitions.—C. E.

[In spite of all that can be laid down as characteristics,

much must be left to the discretion of the Judges. Condition and form will always weigh with Judges as counterbalances against more correctness of feather. With regard to characteristics of Hamburghs, we have nothing to alter in the following, published in our "Poultry Book for the Many," which any one can carry in his pocket:—

"HAMBURGHS. — *Golden-pencilled.* — Plumage: cock's hackle, back, and saddle, bright orange red; breast and under part of the body, shades of light brown; tail, ample, black, and well-bronzed. Hen, regularly pencilled throughout on a yellow-bay ground, the hackle and under part of the body alone excepted; of which the former should be perfectly clear, and of the same light yellow bay, while the latter is of a still lighter shade.

"Form: the comb of the cock to be full and firm rose, well piked, and with the face and wattles bright crimson; ear-lobes clear white, firmly attached to the head, and *not* pendent; legs, clean and blue; carriage, erect and symmetrical, the breast being carried prominently forward.

"*Silver-pencilled.*—Plumage: generally as in the above, substituting a silvery white for the yellow bay of the hen, and the orange-red and brown tints of the cock, whose tail must be well silvered, but by no means splashed with white. His lesser wing-coverts are also occasionally marked with yellow or chestnut.

"Weight, it is true, does not enter into the consideration of Hamburgh merits; but still the cock should not be less than 4½ lbs., nor the hen less than 3½ lbs.

"*Golden-spangled.*—Plumage: deep bay, more esteemed if inclining to a brilliant copper. Cock's hackle and saddle to be preferred if spangled; but this is rarely seen, and they are then best striped with black longitudinally, the edge being clear. Red hackle and saddle very objectionable. Breast and back with well-defined, round spangles, the horseshoe form being less effective and less perfect; greater wing-coverts laced very heavily on the extremities, so as to form two parallel bars across the wing; tail, black and ample. The more accurate spangling, often seen in the hen-tailed cock, does not compensate for the defect in his plumage. Hen, spangled throughout, except the hackle, which, in its markings, resembles the cock's; and the lower part of the body, which is of a dusky black.

"Form: comb, rose, and very largely developed; as also the wattles, and with them and the face of an intense crimson; ear-lobe, full and white; general robustness of figure, and bold carriage; legs, blue and clean.

"Weight in excess of the Pencilled birds, say not under 5 lbs. for the cock, or 4 lbs. for the hen.

"*Silver-spangled.*—Plumage: generally as in the above, substituting a silvery white for the ground colour; white also appears in the tail, though black should decidedly preponderate.

"Form: of somewhat slighter proportions than in the Gold-spangled."]

SANDBACH POULTRY SHOW.

(*From a Correspondent.*)

THIS Show was held in the schoolrooms at Sandbach; and, though not quite suitable for the purpose, still did very well. The arrangement, as regards the comfort of the birds, was all that could be desired. There is only one thing to which I wish to draw the attention of the Secretary, and that is, the vessels used for the water. Small basins are not good: the fowls put their feet into a basin, and it is over in an instant. I noticed this in almost every pen. The Show was visited, I was glad to see, by some of the aristocracy of the neighbourhood. The Spanish were good; as were also the Dorkings, Game Bantams, and Ducks. The prizes were allotted as follows:—

SPANISH.—First, Mr. B. Cotton, Crewe. Second, Mr. S. H. Hyde.
DORKINGS.—First, Mr. Churchill, Gloucester. Second, Mr. Fern, Burnbury.
COCHIN-CHINAS.—Second, Mr. Ricketts, Sandbach. (First, no award.)
BRAHMA POOTRAS.—First, Mr. J. Lane, Sandbach. Second, Mr. Craigie, Greenhithe, Kent.
GAME FOWLS.—First, Mr. Daniels, Sandbach. Second, Mr. Ricketts, Sandbach.
SPANGLED HAMBURGHS.—First, Mr. S. H. Hyde, Ashton-under-Lyne. Second, Mr. Pierce, Hartford.
PENCILLED HAMBURGHS.—First, Mr. Bourne, Manchester. Second, Mr. Pierce, Hartford.
POLANDS.—Second, Mr. T. Burgess, jun., Burley Dam. (First, no award.)
BANTAMS.—First, Mr. Churchill, Gloucester. Second, Mr. Craigie, Greenhithe, Kent.
GEESE.—First, Mr. J. Woolf, Haslington Hall. (Second, no award.)
TURKEYS.—First, Mrs. Lea, Brindley Green. Second, Mr. Bradford, Sandbach.
DUCKS.—First, Mr. B. Cotton, Crewe. Second, Rev. J. Armistead, Sandbach.
GUINEA FOWLS.—First, Mr. Henshall, Cross Lane, near Middlewich.

PIGEONS.

TOYS.

VARIETY 12.—THE STORK (*Columba ciconia alba.*)

German, Die Störch. *Order*, Schwingen Taube.

The variety designated "The Stork," or coloured-pinioned Pigeon, is a German Toy: they derive their name from the flights being coloured, their marking bearing some resemblance to that of the common Stork (*Ciconia alba*). In form they resemble the dove-house Pigeon, being of the same size, equally light, and active, and field well; they are turned-crowned, and the legs are feathered to the toes; the whole of the pinions, and a spot on the forehead just above the beak, are coloured either black, blue, red, or yellow; the rest of the plumage being quite white.

VARIETY 13.—THE BLACK-BACKED GULL (*Columba larus marinus*).

Of this variety, I have seen a few specimens in London, called also the Great China Gull; but as to their origin I know nothing.

In appearance they were much larger than the common kinds, approaching in form that of the Spanish Runts: smooth-headed, and clean-footed. The scapular feathers, and the wings, with the exception of the extreme or the marginal pinion-feathers, were black; the marginal flight-feathers, and the rest of the plumage being white; thus bearing a marked resemblance to the large Black-back Gulls (*Larus marinus*) so common on our coasts. I believe there are also some stuffed specimens of this variety in the British Museum.—B. P. BRENT.

PHILOPERISTERON AND COLUMBARIAN SOCIETIES' ANNUAL SHOWS.—The annual Shows of the above Societies take place this month—that of the Philoperisteron, at Freemason's Hall, on the 12th; and that of the National Columbarian, at Anderton's Hotel, Fleet Street, on the 26th. Admission, in both cases, is by tickets, issued by the Secretaries and Members.

OUR LETTER BOX.

SPANISH PULLETS AT BIRMINGHAM SHOW.—"In the article on Birmingham Poultry Show Statistics, it is stated that the second prize Spanish pullets were claimed at £8. I beg leave to contradict this, as the birds were returned to me: and as I have since sold them, I fear the purchaser may think I have delivered to him something different to what he believes he has purchased, unless the statement be contradicted. I, therefore, request that you will allow this to appear in the next number."—MATTHEW RIDGWAY.

LONDON MARKETS.—JANUARY 4TH.

POULTRY.

The retrospect of a market is not very amusing; but, in order to make our report complete to the end of the year, we must mention the Christmas Market of 1857, which did not conclude till after our last number was printed. There were an average supply, and a good demand, at prices that should be satisfactory to all parties. We must except Pheasants, of which there was a perfect glut.

	Each.					Each.				
Cock Turkeys	13*s.*	0*d.*	to	25*s.*	0*d.*	Ducks	2*s.*	6*d.*	to	3*s.* 0*d.*
Hen do.	7	0	,,	11	0	Pheasants	1	9	,,	2 3
Capons	6	0	,,	8	0	Partridges	1	6	,,	1 8
Large Fowls	5	6	,,	6	0	Hares	2	3	,,	2 9
Small ditto	4	0	,,	4	6	Rabbits	1	4	,,	1 5
Chickens	2	9	,,	3	0	Wild ditto	0	9	,,	0 10
Geese	6	0	,,	8	0	Pigeons	0	10	,,	1 0

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WEEKLY CALENDAR.

D M	D W	JANUARY 12—18, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
12	TU	Cytisus.	29.215—29.096	45—29	W.	—	4 a. 8	13 a. 4	6 a. 36	27	8 37	12
13	W	Genista.	30.338—29.193	37—28	E.	—	4	15	7 32	28	9 0	13
14	TH	Cyclamens.	30.144—29.944	38—18	N.	—	3	16	8 14	29	9 22	14
15	F	Daphnes.	30.063—29.954	42—29	S.W.	.10	2	18	sets	●	9 44	15
16	S	Epacris.	30.217—30.047	45—26	W.	—	1	19	5 a. 35	1	10 5	16
17	SUN	2 SUNDAY AFTER EPIPHANY.	30.205—30.261	46—36	W.	—	0	21	6 54	2	10 25	17
18	M	Eryca hyemalis.	30.277—30.232	50—44	W.	—	VII.	22	8 12	3	10 44	18

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 42.1° and 30.9°, respectively. The greatest heat, 56°, occurred on the 15th, in 1852; and the lowest cold, 4° on the 14th, in 1838. During the period 109 days were fine, and on 108 rain fell.

ORNAMENTAL GRASS.

LAMARKIA AUREA.

(GOLDEN-SPIKED LAMARKIA.)

THIS singular and pretty Ornamental Grass is an annual. *Root*, fibrous. *Stem*, much branching; the branches springing from the base of the plant: the principal stem rising from six to nine inches in height: leafy. The *leaves* from three to even five inches in length from the sheathing of the stem; flattened a quarter of an inch, or even more; broad; tapering to a point; flabby; the points often slightly twisted and curved downwards. The whole plant is of a light green colour. The *spikes*, which are on the top of the culm, or stem, are from one and a half to even two and a half inches in length, and one-sided, or unilateral, and slightly pendulous; that is, the spikelets are rather bent downwards. The spikelets, (which are extremely pretty), are in threes, attached to very short small pedicels up the spike. The fertile *palæ* awned: the *awns* half an inch or more in length. The spikelets elongated with numerous little barren palæ, which are very prettily compressed and keeled.

Sown early in April, in a light fertile soil, it produces its ornamental spikes in September.

ON Saturday, the 2nd instant, died DR. JOHN FORBES ROYLE, Secretary of the London Horticultural Society. He had been suffering from Bronchitis for some days; but it assumed a serious form only a short period before his death.

Dr. Royle proceeded to India in the Medical Service of the Company early in the present century; and, on account of his botanical knowledge, and the especial attention he paid to the useful plants of the country, he was rewarded with the appointment of Superintendent of the Company's Garden at Saharunpore, which was founded for a similar purpose. Dr. Royle returned to Europe about the year 1835; but still devoted himself to his favourite subject, as is shewn by his volume, entitled "An Essay on the productive resources of India," published in 1840. Many other contributions on the same, or correlative subjects, appeared from his pen; and he extended his sphere of usefulness by accepting the Professorship of Materia Medica and Therapeutics at King's College, London, and the Secretaryship of the London Horticultural Society. The vacancy in the latter office, occasioned by Dr. Royle's death, throws a great responsibility on the Committee of the Society. It should be filled by a man of firmness, activity, and independence.

Besides many other honorary distinctions, Dr. Royle was a Fellow of the Royal, Linnæan, and Geological Societies.

HYACINTHS.

THERE were two new points in the cultivation of the Hyacinth by Mr. Cutbush, of the Highgate Nursery—at least two points, which are not often insisted on in books. The first point is, almost an unlimited supply of rich liquid manure, the richest that can be made from any of the usual sources: the second point is, that from early in December till the bloom is fully opened, even the *outsides* of the pots are not allowed to

get dry for a single day or night: and a third point is one on which the generality of gardeners put very little stress—namely, the best yellow loam in England is not considered sufficiently rich, or too strong, to force and grow the Hyacinth in; but the tenacity of the loam is modified by the richest old cowdung, in a pulverised dry state, which, although it doubles the growing strength, lessens the natural adhesiveness to one-half its power. Judging from the handling, it was yet sufficiently strong and holding to grow succession Pine Apple plants to perfection.

A friend, who saw the Hyacinth competition in Edinburgh last spring, told me that Mr. Cutbush's flowers were decidedly better than the Scotch-grown ones; but that the Scotch growers brought up their plants in a better style of growth: and on asking his definition of a "style of growth,"—"Why," he said, "to be more like natural growth than forced growth; no part of the plant, or flowers, to look as if they were not from the open air; the leaves stout and thick, and standing up as bold as Aloe leaves."

The first question which occurs, or which did occur, to me, on hearing all this, was, how do these English and Scotch practices—the best practices in the gardening world without a doubt—square with the theory of forcing the Hyacinth, or growing bulbs in general? And the answer must be very humiliating to our pride of intellect; for these very practices are in direct opposition to the common belief and practice of the great bulk of our scientific gardeners, so called. They, or rather we, say that a bulb makes a store one year, on which the growth of the next year depends, more than on the soil and kind of management it receives: and if that were really so, a yearly culture of fresh bulbs from a good pasture would seem all that is most necessary to success: and our own practice of buying the bulbs annually from abroad, where they grow them to perfection in the open ground, would also seem to be the surest way for all growers of Hyacinths to have them best. But experience has proved, and decided, that the Hyacinth requires the best of soil, and the best of management, every year alike; therefore, like other plants, one man will always grow them better than the rest, and get the best prizes for them. The lucky men in these days are Mr. Cutbush, of Highgate, in England, and Mr. Somebody else, in Scotland, whose name I forget just at present.

The way Mr. Cutbush keeps his pots damp—I do not mean the soil in the pots, but the very substance of the pots—is by double-potting. The Hyacinth pot, an upright 32, is placed inside a larger pot in the dead of the winter; and there is a little rich soil in the bottom of the larger pot, on which the plant-pot rests, and from which the bottom of it sucks up the moisture continually; which makes it as necessary to water the outside pot as the other. His earliest plants in Christmas week had the whole of the flower-buds in sight, and from one inch to two inches of the leaves just round the flower-heads, both being of their true natural colour. These bulbs, which are his earliest, must have been potted very early, as they appear to have had no forcing yet, and now they stand on the front shelf of the principal Geranium-house, where they come on very gradually: and to get the flower-stems to advance more quickly, an empty small pot is turned over each of them: but Mr. Cutbush approves of the paper collar for the same purpose, which paper collar was first mentioned by Mr. Fish in The Cottage Gardener.

The next, or succession, crop of Hyacinths, stood plunged in a border, with glass lights over them; and the lights were supported on small pots inverted—thus giving a current of air all round: and the bulbs were not more than three inches from the glass.

Along with them were quantities of Scillæ, in pots, principally *Scilla Sibirica*, which would soon be in bloom. Large 60's, or small 48-pots, were the size-pots for the Scillæ; and four or five bulbs in each pot. For early spring flowers, to decorate the front rows in a show-house, no bulb is more easily managed than the Scilla. It should, therefore, be grown in pots extensively for that. And why not the *Winter Aconite* just in the same way? Many more of the very early spring bulbs might be similarly grown; which, although they look gay enough in the borders, would look much better, and come earlier, if they were potted, and brought forward in a *cold border*, covered with a few spare lights, without a frame, or pit, or box; but merely as Mr. Cutbush brings on his Hyacinths and Scillæ.

This is a new move, and the cheapest we have yet tried; and it seems to answer just as well as cold frames, or cold pits. During very hard frost, the soil can be drawn in close to the sides and the ends of the lights, and the lights themselves be covered with mats; so that all the advantages of a cold pit are thus obtained at very little cost. Suppose whole beds made on the surface, in the framing ground, of old tan, or leaf mould, or sifted coal ashes; the bulb pots plunged to the rims; then a 48-sized pot turned upside down at each corner, and a Cucumber light to be resting on these pots; and, perhaps, another pot in the middle, on each side of the light—what could be more simple for Hyacinths, Tulips, Narcissuses, Crocuses, and all other spring bulbs; also for Strawberry pots, to give the plants the first move, and to keep them from heavy rains and frost?

A third succession of Hyacinths was plunged out of sight, in old tan, right in the open air; and Mr. Cutbush, like many more of us, believes this to be the safest way for amateurs, who have no more glass than will barely secure their bedding plants. If there are three or four inches of tan, leaf mould, or coal ashes over the pots, no frost will hurt the proper flowering of these Hyacinths: but as soon as the roots appear over the rim of the pots, and out at the hole in the bottom, the pots must be unplunged; and if the leaves have grown a couple of inches, they and the flower-stalk are sure to look blanched; but that does no harm, provided the pots are set in some safe place out of the reach of the sun for the next three weeks.

The whole secret of growing Hyacinths in pots, seems to be the use of the very best loam, enriched and made light with very rotton cowdung; abundance of rich, but not very strong, liquid manure; a mere shelter from the rains and frosts till the flower-stems begin to grow freely early in the spring; and then to place the pots up close to the glass, in greenhouses, or the same in pits, frames, or boxes. Mr. Cutbush said he would have the tops of the flower-stems within one inch of the glass, and shift them lower, or lower his shelves, as the growth required.

I may add, from long experience, that the only secret in *forced* Hyacinths, to come at, or soon after, Christmas, is to pot the bulbs about, or not later than, the 10th of August. I wrote to that effect long before The Cottage Gardener was born; and I was most handsomely "called over the coals" for so writing; because it was then the practice not to get them over from Holland sooner than the middle of September. But I never yet knew a great outcry being made about a new, or an out-of-the-way practice, which did not succeed, sooner or later: and so has this.

In those days, a story about a vinery which was shut up after an early crop of Grapes was gathered, and which broke prematurely into leaf in September, before it was discovered that all the lights were shut, suggested the idea of September being the best and

the safest month to begin forcing early vineries. That idea, however, was nailed to the garden wall with nails and shreds, and master hammer-men. But, what is more common now, than potting early Hyacinths in August, and "shutting up" early vineries in September? They are the best practices of the present day.

To insist that a bulb makes the secretions this year, which are to enable it to flower magnificently next year, under less favourable circumstances, is a fallacy; which, the more it is examined and put to the test of practical experience, the more apparent it becomes at every step; and is one instance, out of many, of the modes by which we hamper our progress through the misapplication of sound, solid, and scientific theory.

The next bulb of which Mr. Cutbush grows the largest quantity, is *Oxalis Bowiei;* the best of all the Oxalises for the flower garden, if properly treated for that season, and one of the best to bloom in-doors in March, April, and May. I have grown bushels of it in my day, and the prime rule is this:—

For the flower garden, the bulbs of *Oxalis Bowiei* should be as dry at Christmas as Filberts, and remain so till near the end of April; then to be potted in deep, upright 32-pots, and be put into a cool frame, and the frame kept close in May, to get the plants up quickly, and to allow air freely, as soon as the foot-stalk of the leaf is one inch long. Flowers come soon after the leaves: and the pots ought to be plunged in the beds, instead of turning out the balls; and water must be given to the bed freely for the first month. Then, when the sun is out, I know not a more gorgeous sight, than a large bed of *Oxalis Bowiei*, which is of a rich deep rosy colour. In a common flower-bed, it should not be left out in winter, nor be turned out of the pots; and for these reasons:—In a free, deep, rich soil, as most flowers-beds are, it makes too many leaves to allow it to bloom magnificently; and, if it had room at the roots, it would bury itself, in two or three years, so deep, that it could not flower at all. Take up the pots in November, and keep them dry all the winter; shake out the bulbs, and divide them in April; pot, and frame, and get them on into their flower-buds. Then turn out, and plunge, and admire them more than ever; and call that the artificial way!

The natural way is to have the bulbs dry from the end of May to the middle or the end of September, then to divide, pot, and frame them with Ixias, and so forth.

Mr. Cutbush has a large stock of Ixias also, and of Cyclamens; double and single Lily of the Valley; Crocuses of all the best sorts, throwing up for bloom; also, some thousands of the best-looking plants of Intermediate Stocks I ever saw at Christmas: he had them in large 60-pots, in strong, yellow loam, and the balls as hard and dry as bullets. Then, for Sedums, Saxifrages, Veronicas, Violas, Silenes, Pæonias, Dianthuses, Delphiniums, Pentstemons, Potentillas, Primulas, Campanulas, Anemones, Hollyhocks, Tropœolums, Maurandyas, Lophospermums, and all the rest of the fashionable bedding, bordering, and rock plants, he keeps a large stock; and the high situation of the Nursery, on the face of a hill, is very favourable to all such plants so near London.

Eurybia Gunniana and *ilicifolia*, with *Vaccinium erythrinum*, and *Ilex Cunninghamii*, were the newest plants, to me, of all his out-door stock. The new substitute for Holly, called *Desfontainea spinosa*, and the Epacris-looking, hardy *Escalonia pterocladon*, look as well with him as if they had been in this country for a century: and, to close the account, he sells all the new Grape Vines, including the *Golden Hamburgh*, and *Bowood Muscat*.

Mr. Cutbush has a large stock of well-grown plants of *Lisianthus Russellianus*, which he keeps during the winter on the front shelf of a cool house, giving the plants as much air as his best Geraniums; but he keeps them very dry at the roots: also a large stock of his own seedling variegated Petunia, called *Mrs. Cutbush*. This variegated Petunia looks remarkably well, as a winter decoration, among other plants; and I should like very much to see a bed of it by itself; and also an edging of it round a scarlet or a yellow bed. At page 211 it is written that Mr. Cutbush bought his new variegated Geranium from Mr. Lowe: not so, however. He bought it from Mr. Lennox, the celebrated raiser of that class. I saw it at the very end of the seedlings at the summer show at Chiswick; but I was so fatigued by that time, that I could not trust myself to make a fair estimate of any new or old plant.

D. BEATON.

AYOTT ST. LAWRENCE.

THIS neat village is about three miles from the Node, and three from Welwyn: and, besides the ruins of the old church, mantled, draped, and festooned with Ivy, I was much interested in looking over two pretty places, contiguous to each other. The first was the parsonage, where the neat, well-filled flower garden, and the winding walks in the pleasure-ground, were contrasted and enhanced in interest by a small, well-selected menagerie: the whole place speaking of that neatness, kindness, and comfort, which a person would expect to find, after hearing of the devotedness, the untiring industry, and the unwearied benevolence of the worthy clergyman, who is the head of the establishment. Under a glass entrance, but open at the front, a bed of Scarlet Geraniums was planted out and growing, which I never saw excelled for abundance of bloom and dazzling brightness of colour; thus affording a hint, that, beautiful as such beds are out of doors, the beauty would still be greatly heightened, if protected from rains, and the most sweeping winds, by a roof of glass. Mr. Ellis, the gardener, paid us every particular attention: and yet, I could not but regret: that the butler was from home: as, while attending to all his various duties, he has found time for ardently studying the various branches of Natural History; is a good botanist; and has, in addition to others, in his herbarium every British plant that has been discovered for many miles round.

The other place is of a more pretending character; and belongs to, or is tenanted by, Colonel Cavendish. In front of a large plain-looking brick house, is a large flower garden, divided into two by a central walk, proceeding from the front of the house. A row of standard Roses is planted on each side of this walk, on the grass, which rather interferes with the view of the garden; and taking it all in by the eye at once, when you stand on the gravel in front of the house: which objection will not apply when the flowers are looked at from the rooms in that side of the house. As I had previously passed through the kitchen garden, and saw but very little glass, I was quite surprised to find such a number of well-filled flower-beds; the plants being chiefly those that require protection in winter. I fancied I could keep these things in as little room as most people: but I now suspect I should be the better for a little teaching from Mr. Cat, the very intelligent gardener. The mixing of two or more distinct colours in a bed has been largely followed. Of these, the beds that struck me as the most telling, were large centre beds of *Flower of the Day* Geranium, mixed regularly with the rosy purple *Verbena venosa*. Mr. Cat generally leaves the Verbena in the ground all the winter, and transplants and divides it in the spring. These beds were

little, if anything, inferior to the shot-silk beds formed in other places by the same Verbena, and the old scarlet variegated Geranium; the flowers of the Verbena being kept the same height, and equally blended with the flowers of the Geranium. Fine beds were also made by equal portions of a white and purple Verbena. These were, perhaps, the most striking, though there were numerous other combinations. For solitary beds, this mixing system, planting in rings, or even with broad margins, is more pleasing than using any one colour; but when universally adopted in a *large group*, and many clumps contiguous to each other, the result, as a whole, has more sameness in it, than a well-marked striking diversity. Some of the clumps, sufficiently near to contrast, were filled each by one colour: and I felt the change to be a relief from those that were mixed. However, there is, no doubt, beauty in all these modes of arrangement; and there is no question, whatever plan be adopted, it will be made to look well, when, as in the present case, the gardener and his employers are equally in earnest and enthusiastic about it.

Laurels and other evergreens have been planted, not in a line, but in groups, so as to form a distant background to these flower-beds: and on the open lawn between the beds and Laurels, a low, green, picturesque —nay, romantic background, has been formed in the following manner:—Stones, stumps, roots, &c., have been laid down in a line, in the open space between the beds and the Laurels; the roots, &c., being greatly diversified as to height—the highest, perhaps, three feet, and running down again irregularly to near the ground level: and the whole of this is covered with vigorous, growing Ivy, presenting, on the whole, a very unique picturesque outline. As the Ivy-mantled towers of the old church are within a short distance, and form a fine feature, I could not help suggesting, that parts of this bounding Ivy line should be raised to three or four times their present height, though the same variety of outline should be maintained; and that beyond its termination, and between it and the church, some old ruins should be made, and old pollards be covered with Ivy; and then the whole of this very satisfactory and unique bounding line, would receive a tone from, and be seen as if in connection with, the fine old ruins of the church.

One circumstance more, and I must leave this interesting place. Against the wall outside of the kitchen garden are two very large, fine, fruitful Fig trees. I regret that I cannot now charge my memory with the number of lineal yards these trees extend along the wall; nor the myriads of dozens of fine fruit that had been gathered from them this season. Mr. Cat informed me that they were never pruned; but that, if they got too thick, a long branch was cut out altogether. The trees, as a whole, seemed as if they would want no pruning in a hurry. The year's growth seldom ranged above three or four inches: but the buds were firm and plump, and as thick of fruit as they could nestle. "How have you managed to get them into this state, combining health and extreme fertility? Have you cut the roots? Have you a wall below them, and a wall beyond them; as much as saying to the roots, You must not expect to get any farther?" "No: nothing whatever of the sort. My whole policy has been to let well alone." Aye! but to get the "well"—that was the poser: and there was no little anxiety to get at the bottom of it. I examined the trees carefully. I found that at the centre the shoots grew with as much luxuriance as trees do generally when against walls. I thought this is where the chief thinning goes on. How is it that the shoots are so luxuriant here? I examined them carefully; and I found that the main branches that formed the sides of the tree, were warted, and roughly scarified in their bark; while the bark of the luxuriant branches was whole and smooth as could be. "Ah! you have been at work here to check the luxuriance." "No, I have not: but I see you will not be satisfied until you get all I know about it. It is this:—Years ago—before I had the management of these fine trees —they were always unnailed from the wall every winter, tied in huge bundles, with straw wrapped among the shoots, and around them. Well, one severe winter the mice took up their lodgings in the straw; and, for want of something better, they gnarled and devoured a considerable portion of the bark: and the rough warted appearance still remains." Now, whatever we may say of mice in general, there can be no question that in the present case they did very good service to Mr. Cat, our neighbour, by rendering these fine Fig trees so fertile. R. Fish.

FLORISTS' FLOWERS.

THE PHLOX.

(*Continued from p.* 197.)

Summer Management.—This season extends from April till the bloom is over. Should the season prove a dry one, the plants will require copious supplies of water. Unless this be abundantly given, the bloom will be scanty and small, and will be soon over; therefore, let the amateur be diligently attentive to this point. To prevent the water from evaporating too quickly, cover the beds with green moss, which will have the effect of keeping the soil moist. It acts as a non-conductor both ways: it prevents the heat from entering the soil, and the moisture from escaping. The value of moss—as a shelter from heat, dryness, and cold—is far from being duly appreciated or used.

The next point in culture is to keep down all weeds; they should never be allowed to advance beyond the seed-leaf. If the beds are covered with moss, many weeds will be prevented from springing up at all. Then see that the plants are securely tied to sticks, so managed as not to be seen above the foliage. Strong winds make sad havoc with the Phloxes, breaking them off close to the ground, unless they are well-staked and tied. Hence it is not prudent even to delay the sticking and tying till they are in bloom.

As soon as the flowers begin to fade, and the beauty is evidently past and gone, cut down the stems immediately, clear away the moss, and fork the beds gently over. That will complete the summer operations.

Winter Management.—This is very simple. If none are wanted for increase, and the plants are not inconveniently large, they may be allowed to remain a second year without taking-up. To enable them to bloom well the following season, give a mulching of short hotbed dung, an inch or so thick. This will act as an enricher, and as a protector from severe frost. When the winter is over, fork in the dung that is left; and then the plants will spring up strongly, and bloom with the proper management more freely the second year than the first. After that season, I would advise a general taking-up, renewal of the soil, dividing the plants, and replanting.

The following list is selected from a large collection; and will be found, I trust, useful to every one desirous of cultivating these fine plants:—

White.

Those marked with a * are new and good.

*Addisonii, with distinct carmine centre; large and perfect form.

Anaïs, pink eye, very beautiful.
Antagonist, free and constant.
Candidissima nova, pure, and well-formed.
*Countess of Home, with a perfect crimson centre, and form faultless. A good bedder.
*Countess of Morton, petals thick and fleshy; form fine.
*Madame Celeste, with cherry eye; good form.
Imbricata, pink eye. A good bedder.
Omniflora, a good dwarf well-known species, excellent for massing.
*Omniflora perfecta compacta, a new and superior variety.

Blush and Pink.

Abdul Medschid Khan, very beautiful; rather tall.
*Amatissima, excellent form; medium height.
*Annie Salter, large trusses. A fine variety.
Eliza, compact, and dwarf. Good.
Exquisite, with white eye; beautiful. Medium size.
Gracilis, fine form, with a crimson eye.
*May Queen, shaded with rose. Very exquisite.
Pallida perfecta, fine shape, and rather dwarf.
Reine des Phloxes, carmine eye. Very beautiful.

Crimson, or approaching to it.

Boileau, rich colour; fine form.
Brilliant, light crimson, but very bright.
L'Ami Gouty, reddish carmine, purple eye; fine form.

Lilac, or Rosy Lilac.

Agathocles
Astrea, shaded with rose } Fine forms.
Lechmannii, shaded white centre
Lilacina grandiflora, very fine.
Spencerii, very dark lilac; splendid dwarf habit.
Venusta, rose eye. Very fine.

Purple.

Purpurea perfecta
*Purpurea superba } All fine forms, and good habits.
Rubra superba
Undulata elegans

Rose, or Deep Pink, form and habits good.

Compacta Goëthe Pastor Clements
Egzelia Madame Courcells Patula
Rose Brilliant.

Pale Yellow, or Stone-coloured.

A class that needs improvement in colour.

Keteleerii Madame Lefevre Pumila nova
Madame Joly Madame Viard

Striped, Variegated, and Spotted.

Alba purpurea variegata.
Comte de Flandré, white, striped with rose.
Imperialis, white, spotted with rose.
*Macbeth, white, striped with carmine.
*Napoléon, pale licac, edged with white.
*Nimrod, white, striped with rosy red.
Roi Léopold, peach, striped with red.
All medium heights, and good shapes.

Lilac, approaching to Blue.

Général Lamoricière. Talma, purplish blue.

This class is capable of great improvement. A decided blue Phlox is very desirable.

I have endeavoured to arrange the Phloxes into groups: but we are not yet in possession of sufficient data to fully establish more than the above number of divisions. It is, I think, a step in the right direction; and I shall not lose sight of the idea next summer.

Properties of a Good Phlox.—It only remains to give the properties thought to be necessary, in order to form a good Phlox in a florist's eye:—

1. Every bloom must be large, round, flat, without notch at the end of the petal, and sufficiently numerous to form a good truss.
2. The truss should be large, widest at the base, and rising in the centre.
3. Petals should be of sufficient thickness to keep their form to the last, neither turning upwards nor downwards at the edges.
4. Habit. The plant should be dwarf and branching, producing not less than three good trusses for exhibition.

T. Appleby.

NOTES ON NEW OR RARE PLANTS.

Clerodendrum squamatum. *Vahl.* Nat. ord., *Verbenaceæ.*—Native of China and Japan. Shrubby, with smooth, four-angled, slightly-furrowed branches. Leaves on petioles two or three inches in length; cordate; margins obscurely toothed; nerves three, or five, prominently developed, upper side dark green, and almost smooth, under side lighter green, and covered with minute circular scales. Inflorescence a terminal panicle, with smooth peduncles, thrice divided in a forked manner; each pedicel bearing a single flower. Segments of the the calyx acutely ovate; smooth, green. Tube of the corolla long, slender, divided into four unequal segments at the limb. Stamens four, on long, slender filaments.

This beautiful species of Clerodendrum, has long inhabited our stoves, with pleasure to the possessor. But, although claiming extensive cultivation, it is not so frequently met with, as one would expect. It requires a good, rich loam, with about a third part of peat, and well-decomposed cowdung, and a little sand. The drainage must be perfect and plentiful, for it will not live long with stagnant moisture at the roots. Bottom heat, and plenty of atmospheric moisture are essential to the plant when growing. Easily propagated by cuttings.

Anthocercis viscosa. *R. Br.* Nat. ord., *Solanaceæ.*—A native of New Holland. Stem and branches shrubby. Leaves sessile, alternate, obovate, very much attenuated at the base; margin very obscurely serrated; surface overspread with glandular dots, which give a clammy sensation to the touch; dark green above, lighter below. Inflorescence solitary, and axillary, with two or three linear lanceolate bracts situated on the peduncles. Calyx cleft into five linear, lanceolate segments, persistent. Corolla tubular, with a slightly campanulate limb, divided into five obtusely oblong, spreading segments, of a dull white colour. Tube marked internally and externally with greenish, radiating lines. Stamens four, with short filaments attached to the base of the tube of the corolla.

This interesting greenhouse shrub blooms in May and June; but it cannot be recommended as a very free-flowering plant. Cultivation, however, might influence this; and I have only seen it have one kind of treatment. It is very impatient of stagnant moisture; but, with a free, open drainage, it will thrive best in a compost of rather heavy texture, say about two parts good strong loam, and one part peat, with a little sand.

Euphorbia punicea. *Swartz.* Nat. ord., *Euphorbiaceæ.*—Native of Jamaica. Stem woody, smooth; producing branches with difficulty. Leaves thickly crowded on the younger parts, lanceolate, nearly sessile, smooth; deep green above, and glaucous beneath. Inflorescence an umbel, with about five heads of unisexual sessile flowers. Pedicels slightly pubescent, bearing two large bracts below each head of flowers. Bracts sessile, oblong, with a slight acumination, and of a rich crimson colour. Involucres

campanulate, with a contracted mouth, fleshy, pubescent, deep crimson, bearing several glands of a bright yellow colour on the margin.

Few of the plants cultivated in our stoves can claim greater beauty than this one; and it is in the bracts that its splendour lies. A loamy soil suits it best; and it should be rich and strong. To propagate this plant from cuttings, is rather difficult, because, after being cut from the plant, they bleed so profusely, as to become quite exhausted. This might be prevented by cutting them only partially through on the plant, a week or two before cutting them finally off.

Acrophyllum venosum. *Benth.* Nat. ord., *Cunoniaceæ.*—Native of New Holland. A freely-branching shrub, about two feet in height. Branches woody, stiff, reddish, smooth, with a few closely-lying hairs on the younger parts. Leaves opposite, sessile, ovate; margins deeply-toothed; veins very prominent, and reticulated; dark green on the upper side, lighter beneath, very coriaceous. Stipules in pairs, at the base of each leaf; lanceolate. Inflorescence in axillary panicles, surmounted by a tuft of small, reddish leaves, of similar character to those of the stem. Calyx small, with the limb divided into acutely lanceolate segments; persistent. Petals larger than the calyx; each on a long attenuated claw. Stamens extended beyond the corolla, on very slender filaments.

A very handsome greenhouse plant, with free-flowering qualities, and easy of growth. It blooms in the spring, and early summer months, and lasts well. It prefers a compost of rich loam, about two parts, and one part of peat, with a good portion of sand, over a well-placed drainage. Roots pretty freely from cuttings of partially ripened shoots, in sand, by the usual method of striking cuttings of greenhouse plants. —S. G. W.

THE GARDENER AT WENTWORTH AND THE GARDENS.

The gardener and the gardens! Why not? It is not the common jog-trot way, certainly; but the gardener at Wentworth is not a common one; and, allow me to apply the saying said to be spoken by the late Earl of Moray, in answer to one of his friends, who told him that his coat was not so good as his butler's, "Perhaps not;—but there is this difference: the coat honours him, and I honour the coat;" and, I dare to say, that Mr. Henderson honours Wentworth Gardens. I was fortunate in finding him at his rooms before I entered the garden. And though twenty-seven years had passed from the time I had seen him last—taking also into consideration that he has not had the attentions and fostering care of a lady to air his pillow—I was glad to see time had made little inroad on him, which is not to be wondered at; for if there is one that has followed the advice of Cowper, when he says—

> "A life all turbulence and noise may seem
> To him, who leads it, wise, and to be praised;
> But wisdom is a pearl, with most success
> Sought in still waters, and beneath clear skies,"

it is Joseph Henderson; for no man has made himself more the harvestman of circumstances. His rooms bear undoubted testimony to this, and contain an interesting, select museum of natural history, collected by his unwearied industry; and I have a lively recollection of sitting down to a table covered, apparently, with castles of pill-boxes, which, for the moment, took me by surprise; as I could not reconcile to my mind that such a healthy specimen before me could be kept up by such nostrums. And it was not till I had mixed and intermixed them, in explaining how this and that were or should be laid out, that I bethought me they were full of insects, arranged in order according to their different genera; and I ought to be ashamed to say, I was cowardly enough not to apologise, but leave them, un-Hendersonian—a medley of confusion. For, whether he is on his knees searching for the flowers of a rare Moss; potting a dear Fern; superintending the planting of a huge Oak, where every fibre of the roots, to please, must have its place; or adjusting the down on the neck of a swan, or the feathers on the wing of a goose he has stuffed; or even the placing in its proper position the leg of a beetle, or the horns of a butterfly—all, all must be done to such a nicety, and with a patience only equalled by an Andrew Moray, the Scotch general of Mending Girth notoriety in the time of Edward III. Hence the key to his great success in a profession—energy is useless if not coupled with patience and perseverance.

Note this, ye youngsters, and follow his steps. This you may rely on, is the ladder where fewest rotten steps are to be met with. But even if I could, this is not the place to enter into a lengthy description of his long and useful life. Suffice it to say, he is the last, I believe, of the race of Hendersons, of Blair Adam, in Fifeshire, who are well-known to have been, for botanical lore, far in advance of their more aristocratic neighbours; that he was a worthy predecessor, at Raith, in Fifeshire, of Mr. Smith, of Kew; has also had the honour to serve royalty; and, I believe, has now been upwards of forty years in the service of the noble Earls Fitzwilliam. In conclusion, allow me to say, that he justly stands decidedly at the head of the now numerous growers of the interesting tribe of Ferns.

Wentworth gardens—allowing the starting-point to be the centre of the garden-front of the house, and that you have only seen the park-front of it, which, as I have said, is very imposing—one would naturally suppose, or rather expect, something after the style of a Stowe before him; but, on the contrary, all that is to be seen is a forest—true, not of noble Oaks alone, but, which is worse, a mixture, including recently-introduced trees, with an irregular outline that allows the caprice of every succeeding generation to stick in a favourite tree; thereby shortening the already-too-limited distance between the house and them. Yet this has its advantages: and if it were not for knowing that the house was close behind you and the picture from its windows, I would not find fault with it; for, in taking the straight walk before you, which, though a very good one, is by far too narrow, and on each side of which are rows of small circular clumps, with some half-dozen standard Roses in each, and well studded with scarlet Geraniums, Calceolarias, Lobelias, &c., which, I will take the liberty to say, were pretty enough; and though in good keeping with a well-dressed lawn, were here quite out of place. After walking a very little way, I observed, on the left, a very fine specimen of the Liquid Amber, nine inches in diameter at the base, and about eighteen feet in height; a tree, to the disgrace of landscape gardeners, too-seldom met with. On the right, a little further on, was a splendid Oak-shaped Mountain Ash: but, as taking notes was quite out of the question, I have, therefore, only to add, that a few steps further ushered me into what I shall call the dressed-forest style, a little after Mr. Frost's, at Dropmore, with a little more liberty; forming a series of open glades, and irregular recesses, with the Ferns and other plants running in great profusion—carelessly, but very gracefully, from beneath the bushes, yet all under subjection—nothing of the wild-entangled; but all, from the grass to the highest tree, in Hendersonian order.

At every turn, you meet with magnificent trees and shrubs, many of which stand out boldly alone. I will give you here a list of the most remarkable trees in the place; the dimensions of which have been kindly sent me by Mr. Henderson.

	Height.	Diameter of Base.
Pinus Douglasii	35 feet	1 foot
A Scotch Fir	80 „	8 feet
A Larch	87 „	7 ft. 6 in. do.
Ditto	85 „	8 ft. do.
A Spanish Chestnut	94 „	11 ft. 6 in. do.
Ditto	100 „	13 ft. 6 in. do.
An Ash	94 „	7 ft. do.
Ditto	92 ft. 7 in.	10 ft. do.
A Beech	93 „	11 ft. do.
An Oak	86 „	11 ft. 4 in. do.
Ditto	100 „	13 ft. 7 in. do.
Ditto	82 ft. 9 in.	15 ft. do.
Evergreen Oak	32 „	7 ft. 8 in. do.
Cedrus Deodara	25 ft.	10 in. circumference, 4 ft. from the ground.

Enough as a sample; for I see a huge old-fashioned green-

house in the distance. I was glad to find this greenhouse of the dark days, when light was taxed, very properly in the hands of the moderns: and let us see what Mr. Henderson says of it, which I would advise our teachers in horticulture to note.

"The greenhouse is eighty-eight feet by thirty-two feet. I have had the old opaque roof taken off, and a glass one substituted. It is a span-roof, composed of light iron ribs, each alternate one being fixed a trifle lower than the other; just so much, that the condensation on the lower surface of the glass runs into a copper gutter, fitted to the lower rib, which carries it off without dropping on the plants. It is a great improvement; and the plants are even already exhibiting marked effects from the improved light."

In a corner I saw a huge healthy plant of the *Cycas revoluta*, a connecting link between Mr. Henderson and Mr. Alcard, late of Stratford. Who would not be a cultivator of plants when they can be turned to such account? In and around this house I saw very healthy young Orange trees, good specimens of double-white Camellias, &c., well-set with flower-buds, and other appropriate plants for such situations; and among them Ferns, of course.

Near this spot is an extensive aviary, some 358 feet in length, seventy-six feet of which are glazed. One thing I observed had a pretty effect, which was a large Mountain Ash, beautifully covered with berries, and protected by a huge cage of wire.—D. FERGUSON, *Stowe, Buckingham.*

DR. LINDLEY'S BOTANICAL LECTURES.

DURING the Christmas holidays, Dr. Lindley is giving a course of lectures on Elementary Botany to the Fellows of the Horticultural Society and their friends, at 21, Regent Street. Three of these lectures were delivered during the past week to respectable audiences, which chiefly consisted of ladies and young persons. The first was on the Seed, and the Root of plants. The second on the Stem, and the third on the Leaves; and the subjects were treated in a manner so clear and simple, as that the smallest comprehension could not fail to understand what the lecturer meant. The lectures were illustrated by specimens of seeds, roots, stems, and leaves themselves, and by well-drawn and characteristic diagrams of highly-magnified parts of the subjects under consideration. The audience was highly gratified, and evidently much instructed; although we suspect some of the terms made use of were not sufficiently suggestive to fix themselves on the minds of such as constituted the audience. For instance, the learned lecturer, when speaking of the seed, said, that the word *cotyledons* had no English equivalent, and, therefore, that was the word he used; but we would suggest that *seed-lobes* is quite as good a word, more simple, and would certainly be more suggestive to the minds of the audience. Again, in speaking of under-ground stems, he spoke of the *rhizome*, which might as well be called *root-stock* in addressing such listeners. The lectures were, nevertheless, sufficiently clear, highly instructive, and quite free from any of the more difficult and abstruse subjects, which too frequently tend to bewilder and disgust beginners, and those who have not patience to investigate the subject. The lectures will be continued to-day (Tuesday), Thursday, and Saturday, during the present week.

SCARLET GERANIUM PYRAMID.

I SEND you the following method of planting the Scarlet Geranium—a method which has been practised by me with good effect; and may, perhaps, prove interesting to some of your readers, who are contemplating new arrangements in the flower garden.

Having provided a quantity of thick wooden stakes, with the bark on, about two feet six inches long; and selected a situation where the pyramid can be viewed from a distance—and if well backed by evergreens, so much the better—I proceed to mark out a circle, eight feet in diameter, and drive the first row of stakes close together, leaving them one foot above the ground. This is then filled in with common earth, and well trodden. A second row is then driven in a circle, six inches less than the former one, which six inches form the space for planting in. This circle is again filled up with earth, and well trodden; adding, but diminishing the circles till the pyramid is finished, which will be about six feet high.

The pyramid looks best on grass. The one here has a verge six feet wide round it, which is surrounded by a gravel walk. The first planting circle, which is on the ground-level, I leave one foot wide; which gives room for an edging of *Alyssum variegatum*, and has a very pretty effect. I intend planting it next season with the variety called *Brilliant*, which, with me, has turned out a profuse bloomer; and being of dwarf habit, and having a small foliage, will be well-adapted for the pyramid. Crocuses or Hyacinths might be planted in the circles, with an edging of Snowdrops for spring flowering; and in the depth of winter small branches of evergreens may be stuck round the circles, which will keep fresh for several weeks, and give it the appearance of a large evergreen pyramid.—WILLIAM ADDERLEY, *Gardener, Yotes' Court.*

[We shall be glad to have the article on *Oxalis Bowiei*.—ED. C. G.]

THE WINTER IN DEVONSHIRE.—Dining on Christmas-day with a friend whose house is situated close on the confines of Dartmoor, a bouquet consisting of the following flowers, all of which were gathered from the *open garden*, stood on the table:—Fuchsias, fine; *Tom Thumbs;* Ageratum; Nasturtium, fine; Mignonette; Salvias; Periwinkle; Polyanthus; Verbenas, &c.—J. NICHOLLS, *Tavistock.*

ON A PECULIAR FORM OF MILDEW IN ONIONS.

By the Rev. M. J. BERKELEY, M.A., F.L.S.

FEW crops more frequently disappoint the expectations of the cultivator, than Onions. Wet and dry seasons are alike injurious, and there are few years in which they do not suffer more or less from mildew; and this not merely under a bad system of cultivation, or in indifferent soil, for highly-mildewed crops occur in the most favourable situations, and where the management of them is best understood. The fields at Sandy, in Bedfordshire, where perhaps, the best Onions in England are grown, are extremely subject to mildew, as can scarcely have escaped the notice of any one who has been in the habit of travelling year after year along the road from St. Neot's to London. Neither is the mildew of one kind only, or confined to one particular organ or portion of the plant. Whole beds are destroyed in an early stage of growth by a parasitic Fungus which attacks the leaves, and is nearly allied to *Botrytis infestans;* but which, instead of being white, is of a pale reddish grey, with spores far more elongated, and flocci quite destitute of the nodules which are so characteristic of the Potato mould. Sometimes the crop seems for a time to be healthy; but gradually, after the formation of the bulb, acquires a sickly hue, which rapidly increases: the leaves wither; the roots decay, and are covered at their junction with the bulb with a filmy mucedinous web; the bulb itself ultimately becomes loose from the destruction of the roots, and as the mould spreads, entirely decays. In other instances, a placentæform *Sclerotium* is formed at the base of the bulb, of greater or less size; while in other instances, again, the whole substance of the bulb and neck is impregnated with mycelium, in the midst of which appear multitudes of little black seed-like grains, which have been described as *Sclerotium Cepæ Lib.;* and specimens have been published under that name in the fourth Fasciculus of British Fungi. Still other forms of mildew occur; but it is to this latter that my attention has been more especially directed.

The dry summer of 1847, was, in many districts, extremely injurious to the Onion crops. Whole breadths at once became dry and withered, frequently not from the presence of any disease, but from mere lack of moisture; and the bulbs were extremely small and insignificant. Mildew also was very prevalent, and various examples were forwarded to Dr. Lindley; some of which, and amongst them the form under consideration, were placed in my hands for examination. I happened at the time to be staying at Margate, where my friend Mr. G. H. Hoffman, with the assistance of a good compound microscope, had been making some observations on the

mycelium of the parasitic Fungi which attend or produce mildew, and I was glad of the opportunity of examining the present parasite with him. The specimens were somewhat decayed, in consequence of having been some time on the road, and their odour was extremely disgusting. On making a section through the plant, every part of it was found to be more or less decomposed, and filled with white mycelium, which was occasionally greenish from the juices of the matrix; amongst which appeared the *Sclerotium*, in various stages of growth, distinguished in the younger specimens by its compact substance, and in the older by the dark blackish cuticle. It was a matter of importance to ascertain, if possible, what was the nature of these globular bodies; and the manipulation applied by Mr. Hoffman, to the observation of mycelium in other cases appeared likely to lead to some positive result.

Léveillé has, in his interesting memoir on the genus *Sclerotium*, combated the pretensions of the substances comprised under that name, to occupy a place amongst autonomous Fungi; and though his observations are as conclusive as the nature of the case would admit, without an experiment like that now recorded, which alone could furnish the means of seeing the actual development of the Fungi from the mycelium of which they are so many anamorphoses, they require some direct confirmation, which does not, however, at all detract from their own original merit. It became, therefore, a matter of interest to embrace the opportunity now offered of following up the point.

It is well known that it is possible to watch many mucedines from the first germination of the spore to the complete development of the fructification, by simply placing the reproductive bodies in a drop of water on a slip of glass, covering it with a piece of microscopic glass, and luting the edges with wax to prevent evaporation. The mycelium is developed in the water, while the fertile branches make their way into the surrounding stratum of air, and bear fruit. It was determined to subject a portion of the mycelium from the tissues of the diseased Onion, and a portion of the *Sclerotium*, to this process. In one slip of glass our success was complete; in others more or less perfect. A single observation, if possible, should not be relied upon. An extremely thin slice from the stem was taken, so thin as to enable us to distinguish easily the several parts of which the object was composed. The cells and vessels of the matrix were well defined; and the mycelium connected evidently with the sclerotioid granules which were separated from each other by veins of flocci, very much in the same way in which sporangia of certain Fungi are combined. It was easy also to recognise the structure of the *Sclerotium* as well externally as internally. The inner tissue was found to be not compactly cellular like that of *Sclerotium durum*, *complanatum*, &c., but filamentous, as in *Sclerotium Boletorum*, Corda, consisting of closely interwoven branched threads, resembling, on a small scale, the tissues of the seed-pods of *Fucus vesiculosus*. This structure, it is obvious, made it more easy to trace the continuation of the mycelium from the tissue of the *Sclerotium*.

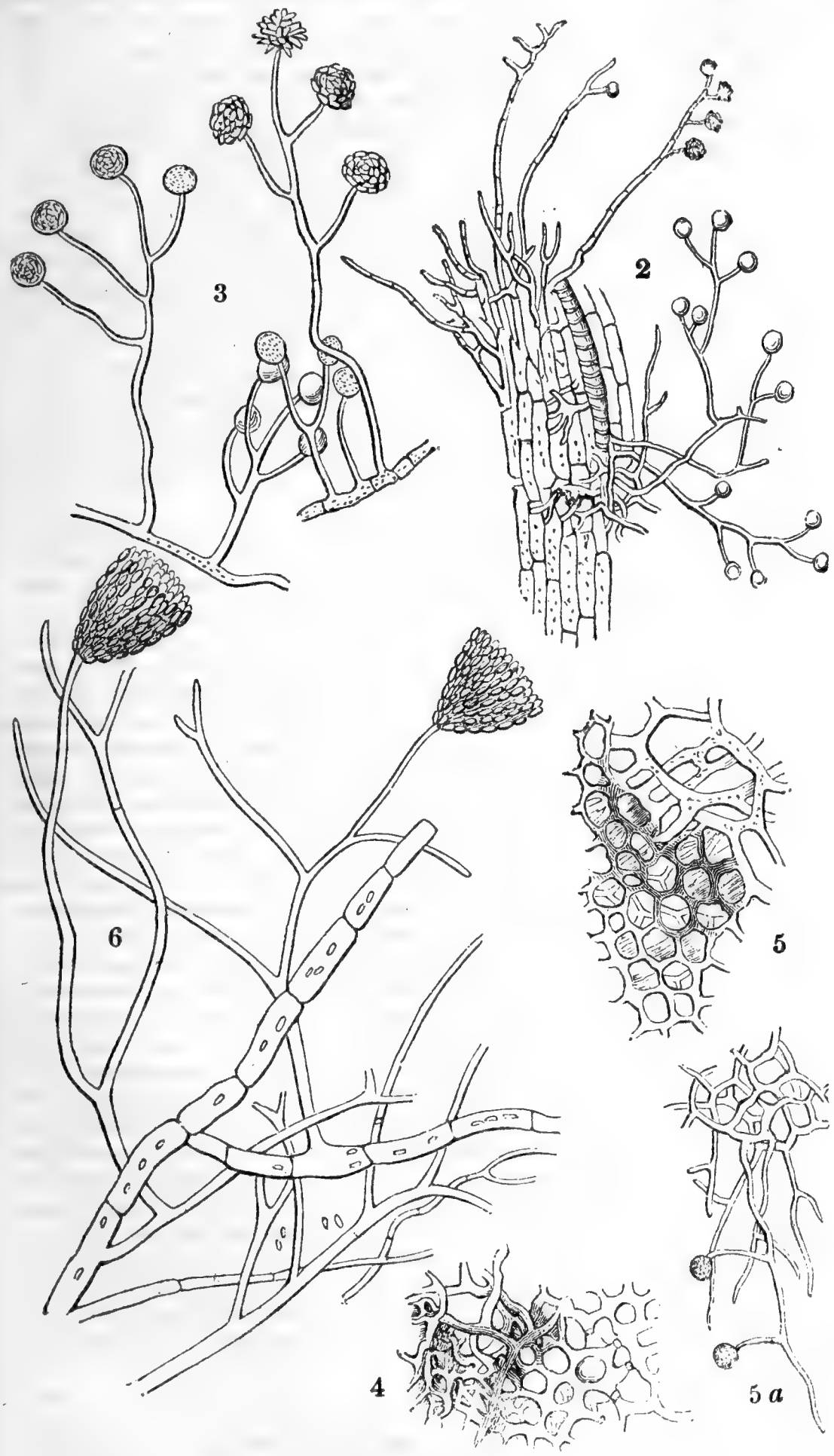
After the expiration of a few hours, the slices began to assume a different appearance, from the elongation of the mycelium, which was protruded on all sides, and was branched and flexuous. Some portions were repeatedly articulated; others either entirely without articulations, or with merely one or two scattered dissepiments. As long as the mycelium was confined to the drop of water, there was no appearance of fructification; and even the tips of the filaments were scarcely incrassated. There was not, then, the slightest intimation to what genus of Fungi it belonged; but no sooner had it penetrated through the globule of water into the surrounding air, than a marked change took place. The tips of the short lateral branches became incrassated, and at length globose, and contained a grumous mass, which soon manifested definite spores; shortly after which the vesicle burst, and the oblong elliptic spores were exposed, still adhering to the tips of the threads—characters belonging manifestly to the genus *Mucor*. The sporangia, however, were of extreme minuteness, not exceeding in diameter that of the individual cells of the Onion stem on which they grew. The appearance, indeed, was that of an *Acremonium*; but the globular heads of that genus have not been observed to be sporangia, and were such indeed the case, there would be no character by which to separate it from *Mucor*, except the comparative minuteness. No columella was observed; but it is possible that in so very minute a body, examined in air without the aid of a liquid medium, which every microscopic observer knows to be of the first importance, it might have been overlooked. One or two very minute species have been observed by authors as *Mucor succosus*; by myself, on inspissated sap oozing from the stem of *Aucuba Japonica*; *Mucor Fimbria*, by Nees; and *Mucor imperceptibilis*, by Schrank: but the two former are far larger productions; and the nature of the latter, which grows under water, is extremely uncertain; and, as Nees von Esenbeck, who has reproduced Schrank's figures, says expressly, requires fresh observations. There was some peculiar arrangement of the spores within the vesicles; but, unfortunately, the most perfect sketch of the appearance has been mislaid; and, indeed, the different stages of growth succeeded each other so rapidly, that it was not sufficiently observed. This was the more to be regretted, as it might have thrown some light upon peculiar arrangements in other moulds, especially in *Stilbum piliforme*, Corda, where the spores are disposed somewhat in the fashion of the cells in the globules of *Chara* and *Nitella*. It must be remembered that there is good reason to believe with Corda, that each sterigma has the power of producing a succession of spores, which, as they are thrust off by the growth of the new spore, are deposited within the vesicle according to mechanical laws. The specimen furnished no information as to the development of the fallen spores.

It appears, then, that the mildew in the instance under consideration was due to the presence of a most minute microscopic mould, bearing about the same relation in point of size to the larger species, that *Salix herbacea* does to well-grown trees of *Salix alba*. The mould was in every part of the plant concentrated at numberless points into the form of a *Sclerotium*, thus confirming directly the views of Léveillé respecting that supposed genus. It was observed above, that no form of fructification was visible in the portion of the mycelium which was situated within the drop of water. That moulds when growing in water not only present great differences as to their mycelium, but even as to fructification, appears from the various observations which refer such states to Algæ, or to distinct genera of mucedines and mucorini. *Achlya prolifera*, respecting which Unger has made such curious observations, is probably a mere anamorphosis of some mould; or, if not so, it is at least an aquatic species, and so far anomalous, though scarcely more so than the Algerian *Sphæria Posidoniæ*, Montagne and Durieu, which grows on the shoots of *Posidoniæ* when yet remaining on their marine bed, and constantly covered by the sea, and is a very highly-developed species.

A curious observation was made in the autumn of 1846, by Mr. Hoffman, on a mycelium, with which the interior of a decaying Pear was impregnated. It should be mentioned first that during that autumn, the leaves of many Apple and Pear trees at Margate were covered with a white flocculent Fungus, which was, however, never seen in fruit. All the fruit of these particular trees rotted; and though no Fungus appeared externally, the cells of the fruit exhibited very clearly a jointed mycelium. An extremely minute portion of this, cleared as much as possible from the cellular substance of the matrix, was subjected to precisely the same treatment as that observed in the examination of the Onion mildew. It shortly began to grow and spread in all directions; but so long as it was confined to the fluid, no normal fructification appeared; the articulations of the threads, however, contained oblong-elliptic grains, which were soon dispersed in the fluid, after the fashion of the reproductive bodies in *Bryopsis* and some *Confervæ*. They possessed at first a slight molecular motion, which soon subsided; and when they became stationary they germinated, and gave rise to jointed threads, similar to those of the parent mycelium. As soon, however, as the flocci penetrated into the surrounding air, a very different sort of fructification appeared, by which the mould was easily recognised as *Penicillium candidum*, Grev. The true spores were of the same form and size as those which had been developed within the threads in water; and it should be observed that no external fruit had appeared when the grains of the joints were first dispersed, or even till after they had germinated. Precisely the same results were exhibited in a second experiment. It was found afterwards that, even *in situ*, as might be expected from the abundant moisture of the decayed fruit, the reproductive granules were produced within the threads and dis-

persed in the fruit, thus extensively and rapidly propagating the disease. There is no evidence, indeed, to show what was the nature of the mould on the leaves, or whether it was identical with that produced by the mycelium; but the fact is interesting, as suggesting further observation, and as tending to the establishment of the truth which is so reluctantly admitted by many, that Fungi are capable of producing extensive disease as well in vegetable as in animal tissues.

The observation is further important, as showing one way in which Fungi may be extensively propagated in the tissue of phænogamous plants, when once the mycelium of a mould has been established; for the reproductive bodies produced within the threads, where there was no cavity filled with air proper for the development of the true fruit, might be carried by the means of the intercellular passages to any part of the plant; and it does not follow that these secondary reproductive bodies should always be of the same size as the spores.



NOTE.—The species of Mucor may be thus characterized:—
Mucor *subtilissimus*, n. sp.; mycelio repente; floccis fertilibus ramosis, ramis brevibus patentibus sporangio omnino microscopico terminatis; vesiculis demum evanidis: sporis oblongo-ellipticis.

Fig. 2. Slice from the stem of a diseased Onion sending off abundant fructifying shoots, magnified to the same degree as the last.

Fig. 3. A portion more highly magnified, showing the various states of fructification.

Fig. 4. Transverse section of the Sclerotium, showing the dark outer coat of two contiguous masses, and the mycelium between them. The lighter portion represents the tissue of the interior of one of the masses.

Fig. 5. Slice from surface of Sclerotium more highly magnified, with the mycelium springing from it.

a. Mycelium springing from substance of Sclerotium.

Fig. 6. Penicillium candidum, exhibiting external and internal fruit.

That disease is propagated from one plant to another appears very clear from the two following observations, which I shall give nearly in Mr. Hoffman's own words. A Turnip was observed, whose leaves were covered with a species of *Oidium*. A fine half-grown Turnip in perfect health happened to be near it, and pushed imprudently one of its leaves in contact with the sickly plant. When first observed, a narrow white velvety border was visible on the edge of the healthy leaf, just where it touched the diseased one. The parasite spread from this border over the whole leaf in a few days; and the poor young Turnip fell a sacrifice to bad company, for both decayed.

The second observation was connected with the Grape mildew, which I have described in the *Gardener's Chronicle*, 1847. Some healthy plants of *Chrysanthemum Indicum* were placed under the vines infested with *Oidium Tuckeri*, and in a short time every plant was covered with the same Fungus. This suggested further experiment. Some self-sown Potato plants, of an early variety, entirely free from *Botrytis*, were potted off, and placed where the *Chrysanthemum* became diseased. All throve admirably, without exhibiting any appearance of mildew. The Grape mould had no effect upon them. But when the leaves of a Potato infected with *Botrytis* were shaken over one particular plant, in a few days it was mildewed, the plant became sickly, and eventually died.

The bearing of all these facts on the possibility of the extensive destruction of plants by parasitic moulds is evident, and suggests the wisdom of extensive series of well-conducted experiments. These, if made without prejudice, or at least with perfect impartiality, would, I am convinced, lead to most important results, which would amply repay the pains bestowed upon them. Attention should be directed, first to the phenomena of growth and propagation, and then to the discovery of some means of prevention or of cure.

I have said before that Onion mildew does not, in my opinion, arise from bad cultivation, or from peculiarities of soil, though it may be aggravated by either. The probability is, that the remedy must be directed to the seeds. It is, however, possible that all our pains may in the end be baffled by these minute plagues. "Few things are more wonderful or more humiliating to man than his powerlessness in contending against God's army of small things, insects and Fungi: he can subdue the monster of the sea, and the wild beast of the forest, but is conquered in his turn by a tiny fly, or a few grains of dust."—(*Horticultural Society's Journal.*)

VINE CULTURE.

I CAN vouch for the success of the plan of growing Vines in pits, detailed by Mr. Fish, at page 220, No. 484; and "the reason why" is this:—that very plan was followed in cultivating the second Vines I had ever seen in fruit with Mr. Niven, sen., between 1823 and 1845, at Belladrum, not far from Beaufort Castle, where I was raised: and I think Mr.

Niven wrote an article on the very plan in the "Memoirs" of the Caledonian Horticultural Society about that time. Mr. Niven was also, as far as I know, the first author who practised and wrote upon the system of growing Vines in pots. He was the kindest gardener I met with beyond the Grampians; he knew the difficulties of my first start in the garden way; and he gave me all the assistance he could; and ever since, his name cheers me when I see it in print.—D. Beaton.

NOTES FROM THE CONTINENT.—No. 18.

BERLIN.

I ought, before this, to have said a few words about the Botanic Garden here. It is situated on a low, marshy piece of ground at the village of New Schoeneberg, about a mile and a half from Berlin. It was made a royal kitchen garden above a century and a half ago, but afterwards changed its character: and about fifty years since it rose considerably under the able directorship of the celebrated Willdenow. It contains a considerable number of houses, most of them old, and built upon a bad principle. They are very much crowded; but would give ample accommodation to the plants, were it not for the improper system of growing so many examples —I must not say specimens—of each species. There is a vast collection of plants, most of them in a poor state of health, particularly the Orchids and Palms. There is no place suited for the latter order. The ugly old barn of a place, built in 1828, in which the larger plants are placed, being quite unfit for them, and a perfect contrast to the Palm House at Kew; but a considerable grant of money has been made for the erection of a new one, which is to be a curvilinear lean-to house. The tribe of plants best cultivated here, is the Ferns, which I shall reserve for my next letter.

There is also a very large collection of Begonias, Dr. Klotzsch, one of the Professors of Botany at the University, having lately paid particular attention to this order. He has completely confused the nomenclature of the genus, by cutting it up into more than fifty distinct genera. His distinctive characters are only to be discovered by careful dissection under a powerful microscope, so that they are not likely to come into use, particularly in England. What would the English gardeners think of such unpronounceable names as Knesebeckia, Mitscherlichia, Scheidweileria, and the like, for their old favourites the Begonias? *B. picta*, under his new system, would become *Cladomischus argyrochromatus*,—far too long a name for general use, particularly now, when the days are so short: but it may be as well to be prepared against the invasion this regiment of names may make upon our catalogues.

Range after range of houses is filled with greenhouse plants, with scarcely any arrangement, and still less cultivation. Indeed, it would be impossible to grow them, as they are so closely packed, that, in many cases, one pot stands on the rim of another. One old, upright house, eighty feet by thirty feet, and thirty-six feet high, is filled with the hoary-looking Eucalyptuses, the graceful Casuarinas, and other large-growing plants. I wonder that the Casuarinas, with their elegantly-drooping Equisetum-like foliage, are not greater favourites in your English conservatories. Large specimens of them would have a fine effect in the Crystal Palace.

In crossing from this house to the next, I passed a pond well stocked with North American and other aquatics. Quite a little gem in its way, was the *Nymphæa pygmæa*: its flowers not much more than an inch in diameter, were produced very freely. They are white, with a slight blush in the centre; and there is no disproportion between them and the size of the foliage. Indeed, it is quite a fairy plant. In the low-roofed aquarium, the *Victoria* was thriving well: and I was lucky enough to see a fine plant of *Nymphæa gigantea* in bloom. Its sweetly-scented, bright-blue flowers, are freely produced. Three were open when I saw it, and many more buds were in an advanced state. I was told it had been flowering for three months. The leaves were two feet across, but I think might be grown much larger. Some Nelumbiums were decorated with their rose-coloured flowers, as large as a Pæony, but much more delicate. Others bore their curiously-shaped fruit.

There is an arboretum in which such trees as are hardy here, are planted. The garden, also, contains a good collection of herbaceous plants: and the display of hardy bulbs was particularly fine in the spring.—Karl.

WARDER'S AND COLLATERAL HIVES.

I am not at all desirous of entering into any lengthened controversy with your esteemed correspondent, Mr. Wighton, regarding the merits of the different methods of bee-keeping, and should not have requested space to reply to his article at page 52 but from the circumstance that he appears to have misunderstood the greater part of my previous article on Warder's method, and, therefore (I believe quite unintentionally), misrepresented me to a serious extent. I will reply to Mr. Wighton's article *seriatim*. I am perfectly aware that Warder's plan of constantly adding boxes below is capable of improvement. What was stated by me was, that "with slight alterations it was almost identical with the most profitable system." This I again repeat, the alterations required being a decrease in the size of the boxes, and the placing them above the stock to receive virgin honey without brood, instead of below.

With regard to the collateral system, I repeat my conviction that it is a most unsatisfactory, nay, more, a most unnatural and profitless system of bee-keeping. I am not wedded to any particular hive, but I am to a particular system, namely, the storifying, and I am quite willing to stock three hives, one my own pattern bar hive, one Stewarton hive, and one flat-topped straw hive, with swarms next season, place them side by side with three collateral hives, and wager the hives and contents that I obtain a greater weight of produce and one-half more virgin honey from them than can be obtained from the collaterals.

Nay, more than this, I will engage with two common shilling pails, with the handles knocked off, and holes cut in their bottoms, to obtain better results than can be obtained by any swarm put into any collateral boxes whatever. I decline giving the address of my friend who has made over £50 this year, because he does not wish to be dragged before the public; but, as a proof of what may be done, I will state that I have received a letter from a stranger, Mr. Lavington, of Bishopstoke, who reads The Cottage Gardener, stating that he has five tops of white honey in top boxes, without a single grub, averaging from eighteen to twenty-five pounds each, and one hundred-weight of strained honey to sell, and that his set of Stewarton boxes contained eighty-eight pounds the first year. With these results it is very clear that a large sum may be gained by bee-keeping on a right system in a good district.

With regard to the errors Mr. Wighton quotes from Warder's book, I am quite aware of their existence, and of more serious ones not quoted; but compare his admirable work with others of the time, nay, even with such late works as Richardson's "Hive and Honey Bee," &c., and his practical good sense will contrast strongly with the trashy compilations of men who wrote because they were paid so much per page. That in an age not remarkable for readers nine editions should be published in fifty-three years, viz., from 1712 to 1765, is a pretty good proof that the book was appreciated.

In conclusion, I must enter my earnest protest against the accusation of classing Mr. Golding amongst those who are "not bee masters." What I stated was *precisely the reverse*. Mr. Golding was the first who reduced the bar hive to anything like a scientific system, and so firmly am I convinced of the correctness of the measurements he has laid down, that in my own hives, although I use boxes instead of straw, the bars are precisely the size he recommends. One proof of Mr. Golding's practical good sense and knowledge of bee matters is found in his opinion of collateral boxes, of which he says, page 36, "I had six pairs in operation for some years, but discarded them, finding it impossible to keep the queen from breeding in *both* boxes." And he speaks of Nutt's plans as being "not of much practical utility," and founded on an essentially false

assumption as to the temperature required for the production of wax and the development of brood.

I must apologise for the length to which this communication has run, but to have rested under the imputation of having disparaged Mr. Golding would have destroyed for ever my own reputation as a bee master.—W. B. TEGETMEIER, *Tottenham.*

QUERIES AND ANSWERS.

JERUSALEM ARTICHOKE BLOOMING—THE SCOTCH THISTLE.

"As 'W.,' of Penzance, in No. 479, expresses a wish to be informed whether any of your readers have noticed, this year, the unusual circumstance of the abundant flowering of the Jerusalem Artichoke, I beg to inform him that I noticed several of these plants in flower this year in a garden in this place. You justly remark, that the flowering of the Jerusalem Artichoke is not a very uncommon event: I, therefore, should not have sent you this notice, had I not thought it may be interesting to 'W.,' who observed the plant in flower in the neighbourhood of Land's End, the most western point of England, that it has also flowered in this village, which is, I think, distant about forty miles, in a direct line, from Lowestoffe Point, the most eastern point of England; and, indeed, of the island. The difference, however, of the climates of Cornwall, especially the western part of that county, and that of Norfolk, is, I conceive, much greater than that which is due merely to latitude. It is rather extraordinary if a plant, which has flowered in the neighbourhood of Penzance, and also in this neighbourhood, has not flowered at some intermediate places.

"Mr. Beaton has let me off more easily than I thought he would have done. I do not consider myself as being severely reprimanded for having spoken disrespectfully of the bedding system; but only as being admonished to be more cautious for the future. I have, however, I hope, in some measure, propitiated him, as I have paid him black-mail in the shape of some roots of *Anemone ranunculoides*, which he mentions in THE COTTAGE GARDENER as one of his desiderata.

"I do not think that *Carduus nutans*, which is, I suppose, the true Scotch Thistle, might be used with fine effect as a bedding plant. If your opinion upon this subject coincide with mine, you will, perhaps, try to persuade Mr. Beaton to make a trial of it."—E. SIMSON, *Watton, Norfolk.*

[We understand part of the contribution of *Anemone ranunculoides* is under experiment for blooming early in the spring: but what is the Scotch Thistle after all? This is the first time we have heard of *Carduus nutans* being raised to that dignity. Professor Wilson, *alias* Christopher North, and most of our English editors and writers on Scottish tales and scenery, have mentioned *Onopordum acanthium* as the only true Scotch Thistle. But the story of the origin of the motto, *Nemo me impune lacesset*, would need a Thistle not more than two or three inches high.]

PROPAGATING VERBENAS IN POTS.

"On the 5th of October, I put some cuttings of Verbena in a large cutting-pan, and covered with a bellglass, which exactly fitted. Soil, cuttings, and all, were just made according to the directions often given in THE COTTAGE GARDENER. Soil, chiefly fine leaf mould and sand; cuttings, from one to two inches, sometimes young side-shoots slipped off. I took the utmost care of them; keeping the soil moist, but not wet; placing them in a large airy hall-window, but not exposed to draughts or sun; after the first few days, lifting a *little* of the glass, &c. All looked green and well for some weeks, and even grew a little; but, one after another, they drooped down as if the stem were too weak or broken. If I attempted to give them more air, they but drooped the more; they did not look drawn up, or too damp. At the end of seven or eight weeks, I had pulled each up as it withered; and of the twenty to thirty I had put down, not one had begun to strike root; though some lasted for five and six weeks, looking healthy and well. Can you account for this? or tell me where the error lay? I know they were rather late; but cannot think, while looking so well, and even growing, why they should not strike root. Some plants, grown in beds, were *hooked down* only a few days sooner, and struck good roots."—ALICE.

[Many years ago, we failed in propagating, much in the same way as you seem to have done; and many a thought it cost us, in trying to find out the reasons of want of success. We may not be able to clear up the matter as much as you would wish, or so as to please ourselves: but your lucid statement of a disappointment, deserves all the explanation that can be given to it; and, more especially, as the propagating season will soon be here again; and, also, because to our own knowledge, you are not the only person that has suffered from a similar failure this season.

You acted wisely in accordance with the old proverb, "better late than never:" but your case is just one of thousands, in which the "*late*" and the "*never*" are just synonymous, so far as results are concerned; pointing us to another axiom, that "what is worth doing at all, is worth doing well," and doing at the right time, and in the right way. For reasons lately given, the propriety of striking Verbenas somewhat early, would be apparent. Where that matter was overlooked, and no greater conveniences exist than you seem to possess, then it was recommended to take pots filled with suitable soil, to the beds, and lay young shoots over the pots; fastening them in the soil with hooks, or placing a pebble over each, to keep part of the stem under the soil. When roots were running freely in the soil, cut the stem behind half through; and in a week or fortnight more, cut through altogether; and you would thus have a pot of full-rooted plants. The conclusion of your letter proves the propriety of this course. The reason why such shoots rooted so freely, is obvious enough. The shoots were exposed to the action of the weather; the laid part had every encouragement to root, as well as to elongate; and, no check was given to its receiving due nourishment from the parent roots, as long as such was needed. In all such circumstances, and when late enough for cuttings, this is the best mode to adopt. Lateness, then, may be considered one cause of failure; but in such an autumn, not the main or chief cause why such well-selected cuttings, and that kept alive so long, did not strike. We are the more inclined to allude to some of these *now*, as they will apply alike to early and to late propagation.

Soil.—This, very likely, was all right: but, for late and early propagating, *no leaf mould* should be used that is rough enough to produce anything like fermentation, unless it be placed at the very bottom of the pan or pot, and not much even there. What is used for the compost must be very rotten indeed, and thoroughly sweet, from being well aired. This, with pure loam, and white sand, might constitute the half of the compost. Sand and loam should be placed over that; and then a sand-surfacing for the cuttings to be firmly fixed in; so that the cutting does not touch the leaf mould until its roots get into it. In summer, early autumn, and after the end of February, such niceties, with comparatively easily-managed things, are not required; but there can be no question, that in early and late propagating, many cuttings are damped and rotted by coming too much in contact with leaf mould that has not been thoroughly decomposed and sweetened. A little pure sweet loam, with plenty of pure sand, mixed with a little heath soil, if come-at-able, is better, and this surfaced with pure sand. This might be an auxillary; but, as the plants stood so long, we cannot consider it the main cause of failure.

Size of Cutting-pan.—This might have a greater influence, and yet not be the chief cause in such a wonderful autumn as we have passed through. The size is not stated farther than a "large cutting-pan covered with a bellglass exactly fitting it." Now, supposing that your pan was nine, or twelve inches in diameter, it would have been just the thing, if the cuttings had been inserted by the end of August, or the beginning of September; but it was not so suitable in the first week of October. We should have expected some of the cuttings to damp off, however well drained the pan was; and have expected the cuttings in the centre to be more injured than those at the sides. Other things being equal, cuttings inserted close to the side of a pot, are less likely to suffer from damp; and from

the resistance given by the hard sides to the swelling bark, they are more likely to strike roots there. Several amateurs, to our knowledge, have, in this fine autumn, lost many cuttings, from inserting them late in large vessels. One amateur a twelvemonth ago, went through a series of experiments, and with results similar to what we had previously experienced; so that they may be generally interesting. With the exception of his windows, some small, and some large bellglasses, his whole glass was a handlight or two. Having been unfortunate in raising Verbenas, &c., we advised him to strike them in pots in August, under his handlight, with due directions as to shading, airing, &c., and he succeeded admirably; only he forgot to put them in pots: and in potting, and, perhaps, a little carelessness afterwards, the plants were greatly injured. This was the season previous to the experiments. Next year the cuttings were put in pots, under the handlight, during the middle of August, and did well. In the middle of September, seven or eight healthy shoots, about three inches long, beyond the part (about one inch and a half long), held firm in the soil, were laid at the Verbena bed in a four or five-inch pot, well drained, and filled with very sandy loam and leaf mould. When well rooted, the pot was cleared from the stems, and kept shaded for a few days. Our friend says, this is the easiest mode for those not having glass. The other experiments bear on the present case. Three pans, from nine to twelve inches wide, and from three to more inches in depth, were filled on the 20th of September, and set in a south window—to be shaded from the sun when necessary—and each covered with a bellglass. The first pan was prepared, as we have mentioned, for soil, after being efficiently drained. In this a number of the cuttings damped off, and gave way, in winter; and even after they had rooted. The second was prepared in the same way as respects drainage: but after a little rough stuff was thrown over the drainage, the surface was divided into spaces, about one inch wide, across the pan. In other words, into long parallelograms, the width of the pan in length, and one inch or so in width, by lines of crocks on one side, and by charred wooden laths on the other. The spaces were filled with suitable compost, and pressed down, and the cuttings inserted in rows; and, in this case, few cuttings, in comparison, were lost. The third pan, after a potsherd had been placed on each large hole in the bottom, was then covered to the depth of nearly an inch, with fine-washed gravel; and on that was placed some nice clean moss that had previously been steeped in hot lime water, to make sure that there were no slugs, &c., left in it. In that moss small 60-sized, pots were placed in the centre, and large thumb-pots all round after they had received suitable, but not deep, drainage, and had been filled with suitable soil. The cuttings, from two to three inches long, were inserted firmly round the sides of these pots (not in the middle), and hardly one failed; and one of the causes of success our friend attributed to the moisture exhaling from the moss neutralising the dry air of the room; and by damping this moss he could supply moisture to the cuttings and young plants without wetting the surface-soil and the tiny stems of the young plants—a matter of considerable moment when these stems, as in windows, are exposed to considerable alternations as respects heat and dryness. We have though it right to mention these minutiæ, as bearing upon many plants besides Verbenas. If struck at the beginning of September, or the end of August, such minute attention would be less necessary.

Position and Treatment of the Pan.—Besides these matters, the lateness of the season, &c., there must have been a good deal in the position and the management to account for the failure. You seem to have given air all right by lifting the bellglass, or tilting it; but we doubt if your cuttings had enough of exposure to the sun. Their keeping so long, their greenness, their weakness, and their not rooting, all tend to confirm this idea. The quick rooting of a cutting depends greatly on keeping the cutting as much as possible in the same condition as it enjoyed before severing it from the parent stem, so that it may grow on, and know as little as possible of drawbacks. We are now alluding to growing cuttings furnished with leaves when taken off. The first thing to guard against is the wetting of the leaves; and, therefore, to lessen the evaporating surface, we thin, or shorten, or remove some of the leaves, so that the little stem may be less easily drained of its juices: and to do this more thoroughly, we sprinkle the foliage left to prevent it evaporating the juices of the cuttings. After inserting them, we place a bellglass over them, that the air around them may be still and charged with moisture, so that the cutting may be forced to absorb as well as perspire. These precautions taken, and kept always in a subdued light, the cutting may be apparently fresh—may even elongate—and yet no roots be formed. Let but a strong sun shine long upon the glass covering the cuttings, and the balance of absorbing and perspiring will at once be broken. The sun's rays stimulate into extra activity the vital forces of the cutting; a quicker and a more abundant perspiration of moisture takes place; the cutting cannot absorb, to meet the extra demand; and, ere long, it will flag, droop, and die. A rapid decomposition of carbonic acid gas, and a fixation of carbon, also take place; and none is left to carry on the functions of the plant. Hence the importance of shading in such circumstances, to neutralise the action of the sun's beams. But we must have no continuous shade. Young gardeners even, are sadly forgetful of this. They will shade a glass, or a series of pits, in bright sunshine. You go round, hours after the sun has become cloudy, and there you find the shading still; though, every moment the shading remained after it was not needed, the weaker would the cutting become, and the longer would it be before emitting roots—if it ever emitted them at all. We arrive at this conclusion, from the well-known fact, that solid matter (the fixation of carbon), is only added to plants in light and sunshine. Cuttings will not, at first, stand that light and heat: but the more they can be brought to stand, without flagging, and the sooner they can be made to do it, the sooner will roots be formed. Whenever the base, or the sides, of such cuttings as Verbenas throw out callosities, and moisture is sufficient, they will stand a considerable amount of sunlight early in the morning, and late in the afternoon, without shading. "Not exposed to the sun," has, we fear, been your chief drawback in such a season as this has been. In your case, and at that late season, a window facing the south should have been chosen. The bellglass might be kept close for the first day and night, and a piece of thick paper put over the glass when the sun shone. The second night we would edge up the glass on one side, a quarter of an inch, which would freshen the air. Next day remove the shade as soon as possible; that is, when by removing the pan early in the afternoon, to the west side of the window, the cuttings may have bright light, and yet not direct sunbeams, and there they will not flag. In the same position they might enjoy some of the first rays of the sun in the morning, and then be placed at the east side of the window, where they might also stand some time, before the cuttings would require shading; taking care during all these operations, and whilst giving a little air, every night, that the glass is shut down close during the day, until the roots are growing away freely, when air must be admitted. Then, also, in small quantities at first; and then more fully by degrees, until the glass is dispensed with. In one word—shade and sprinkle, to prevent flagging. Shade not a moment more than is necessary to do this. Write again if this do not meet your case.]

LETTER FROM A CALIFORNIAN HORTICULTURIST.

Our country (the Pacific coast), is, so far as systematic and scientific culture is concerned, all new and untried. Only a few years ago, nothing was known; and up to the present hour almost everything is to be learned. Some very striking results, however, have followed our feeble experiments. In January of 1856, I received, from a farm in Western New York, Elm and Sugar Maple seedlings, about 3,500 each. They would average some three or four inches long. They had grown side by side there, and equally well. They arrived in good condition, and were planted in a choice piece of ground, and treated with equal care. The Elms have grown vigorously; many of them are now ten, and some twelve, feet high; while the Maples have mostly perished; and those that still live, neither *grow*, nor promise continuance of life. The Horse Chestnut, so noble with you, refuses almost entirely to grow here. The Beech, after frequent impor-

tations of both plants and seeds, is an entire failure. I have not one left. The American Linden, or Basswood, does slightly better, though it bears no comparison with its home growth. The *Abies Canadensis* (Hemlock), thus far, is an entire failure; *Cedrus alba* (White Cedar), ditto; while the *Pinus Alepica* (Swiss Pine), and several other varieties of the Pinus family, and also of the Cupressus and Abies families, of which I have imported and planted the seed, flourish finely. The Ailanthus, Catalpa, *Gymnocladus Canadensis*, China Tree, *Tamarix Gallica*, and several of the members of the Acacia family (both American and Australian), do well in our soil and climate. The Almond, the several varieties of Walnut (excepting the shag-bark), and the Butternut, all grow rapidly from seed. My oldest are two years old, and are ten to twelve feet high. The Tamarind, with the simple protection of one thickness of common sheeting during the winter months, comes into bearing the second year from seed. Our Apples and Pears, especially those of large size, when entirely exposed to the sun, are apt to sunburn on one side, while the stone fruits are entirely free from the evil.

The above facts pertain to the Sacramento Valley, in the latitude of St. Louis. In the coast valleys, under the influence of sea fogs and sea breezes, and also in the more elevated portions of the country, and in the mountain valleys, they might not fully apply.

In the winter of 1855, I imported, for my ornamental ground, some fine, healthy plants of Norway Spruce, of White and Purple Lilac, Deutzia scabra, and Weigela rosea, which I continually nurtured with the utmost care; but they have nearly all perished, and the remainder barely live. They do not *grow*. Our *sun* is evidently too hot, without the influence of frequent showers. The Rose, the Pink, Flowering Almond, Corchorus, Pomegranate, Rose Acacia, Honeysuckle, Passiflora, and Chrysanthemums, seem entirely at home; while the Verbena, the Geranium, and the whole family of Tulips, Hyacinths, Lilies, &c., do well with *abundant watering*.

This is a bare outline of what families, immigrating to California, may expect to be able to cultivate with success. I may add more when I have more room.—W., *Sacramento, August* 4, 1857.

TO CORRESPONDENTS.

ORCHARD UNFRUITFUL (*S. J. L.*).—Cut away the tap roots which have pierced down into the sandy subsoil. Cover the surface roots with a mixture of loam and rotted manure. Manure the surface every spring. Do not move the trees: you can get at the tap roots by digging a trench on one side of each unfruitful tree, and picking away the soil until you come to the tap root; cut through this with a sharp chisel. Do not disturb the fruitful trees.

FLUKE POTATO (*Solanum*).—We believe it was raised at Middleton, near Manchester, but should like to know its history for certain. We think the "Improved Lemon Kidney" is only the Cornish name for the "Ash-leaved Kidney."

PLATFORM BEE HIVE.—A correspondent wishes for some information relative to this hive, exhibited at the Royal Agricultural Society's Show, at Salisbury. It was made by a Mr. Davis, we think; and we have some recollection of seeing it at the Chiswick Show, last year. We shall be obliged by information about it.

CHEVREUL'S HARMONY OF COLOURS (*A Constant Reader*).—M. Chevreul has published a work upon colours; and we believe that an English translation, also, has been published. Your bookseller can ascertain.

ICE STACKS—FIG TRAINING (*A Subscriber*).—Sulphur is the only known application for curing the mildew on Vines. What our own staff state, we recommend; but we are not responsible for what our correspondents state. All that is known about ice, to the making of ice plates for the butter in July, will be found in our former volumes, if you consult the indices. A "diagram" of any of our fruit trees will give the portrait of a trained Fig tree: the main shoots are the long ones; and to them are tied small, short, side-shoots, to give more room between the main shoots, for the leaves to occupy. Peach trees are often so trained, so are Morello Cherries, and Grape Vines; indeed, any naked part of a main shoot on a trained tree should be clothed by tying to it side-shoots, on purpose to keep the sun from scorching the bark.

VARIOUS (*A Young Gardener*).—The best thing you can do with your caterpillars, is to shake the plants, and look them over, and pick off the vermin. Very likely syringing them well with clear lime water, would also dislodge every one the water touched. The water is made by placing a spadeful of quick lime into a barrel, or thirty-six gallons of water, stirring it well, allowing it to stand until clear, taking off the surface film of chalk, and using the rest; making sure it is quite clear. You may put the Strawberries in when you think proper, but they would not be advanced much until the sun gained power—about March: and with greenhouse treatment, such as you speak of, you could not expect to forward the fruit above a fortnight or three weeks. Any paint will do. We use white lead and oil. And any blacklead-pencil will do. We prefer a good-sized one, such as is used by carpenters. The cheapest fumigator is a garden-pot, set on two other pots, or two bricks, to allow a small draught of air at the bottom. Any old saucepan, with a handle, with several holes in the bottom, and one or two in the side, makes a first-rate fumigator, if you can stick on three iron feet. The great thing, when properly lighted, is to cover sufficiently with damp moss, &c., to keep the smoke cool. This is the great advantage of the patent fumigators, the cheapest of which are about 10*s*. The smoke is always presented cool. Great danger is involved, if the smoke is presented hot to the plants.

MYRTLE BERRIES (*E. E. Llewellyn, Glamorganshire*).—The fruit is quite wholesome, and is pleasantly flavoured; little inferior to the much-vaunted *Eugenia Ugni*, which is, itself, a Myrtle. We are informed, in Mr. Hogg's "Vegetable Kingdom," that in Tuscany a Myrtle wine is made of the berries. Why not try a preserve of them?

NAMES OF PLANTS (*Teignmouth*).—We received your plant, and will shortly attend to the request, as to the name of your specimen. Your Fig tree, we should say, is growing too luxuriantly to be fruitful. We would take it up and replant it, even if we were obliged to place it back in the same spot, cutting away, at the same time, any long or over-gross roots. This we would do about the middle of next March. The Fig tree is always found to be the most productive, when its roots rest upon a dry bottom, rather confined, than otherwise. (*A. M.*).—Your Fern is *Cassebeera hastata*, a native of the Cape of Good Hope. It requires a greenhouse.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

JANUARY 13th and 14th, 1858. DUBLIN. *Secs.*, T. M. Hutton and R. P. Williams, Esqrs., Council Rooms, 212, Great Brunswick Street. Entries close November 21st.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs.

FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

FEBRUARY 10th and 11th. ULVERSTONE. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

CRYSTAL PALACE POULTRY SHOW.

[Our own Reporter's parcel not having arrived, we are indebted to a contemporary for the following. We shall give fuller particulars next week.]

ON Saturday, the Christmas revel was brought to a close, and the last gratuitous distribution of twelfth-cake took place, so that the Palace will have once more to rely for patronage upon its more legitimate attractions. But Saturday did not rely upon the revel to secure visitors to the Palace—it being the first day of the winter Poultry Exhibition—certainly the best that has ever been held, both for the quantity and the quality of the birds. The Show was held in the hall of the south wing, leading from the railway to the Palace, in which the carriages are usually displayed; and we know of no place, either for its space or the excellence of the light, better adapted for such an object. The total number of pens was 1466; and among the exhibitors, were nearly all the most eminent breeders and fanciers of poultry and Pigeons in the country. Many sent to the present Show for the first time; and, notwithstanding the increase in the charge for entries from four to six shillings, the number of exhibitors was much larger than on any previous occasion.

The number of pens of Spanish fowls, was 143; of Dorkings, coloured and white, 150; Cochin-China, brown, white, and partridge-feathered, 109; Brahma Pootra, 46; Game fowl of all kinds, 102; Hamburgh, gold, silver, and spangled, 136; Polish fowl, 58; Malays, 25; miscellaneous, including Crève Cœur, Sultans, Andalusian, black Hamburgh, and white and buff Polish, cuckoos, "rumpless," Polish, white Spanish, Calcutta jungle fowl, Indian and Shanghai game, 30. There were also 87 pens of Bantams, 9 of Geese, 66 of Ducks, 16 of Turkeys, 3 of Guinea fowl, and 384 of Pigeons.

The *Spanish* were more numerous this year than last; the quality of the birds exhibited having also greatly improved. A cock and two hens, shown by Mr. Botham, of Slough, for which the first prize was awarded, were remarkably fine; as were also some birds of the same class shown by Mr. Busst, jun., of Walsall. There was a cock showing by Mr. Rodbard,

of Aldwick Court, near Bristol, which was a wonder for his age; and one hatched in March, with some pullets hatched in April, and shown by Mr. Thomas Sheen, of Holborn Hill, were justly rewarded with the first and second prizes. The first and second prizes for *Spanish Cocks* were deservedly given for birds shown by Master M'Gregor, of Brandon Hill, near Bristol, and by Mr. G. Botham, of Wexham Court, Slough.

Of the *Dorkings* it would be almost impossible to speak too highly—a collection of better, if equally as good, birds having never been brought together. A cock and two hens, exhibited by the Hon. William Vernon, of Rugeley, were giants in size and models in form. The *Chickens* of this class also exhibited most rapid development, as might be seen by reference to the pens shown by Captain Hornby, R.N., of Prescot; Mr. Edward Archer, of Malvern; Lady Dacre, of Welwyn, Herts; Lord Ebury, of Rickmansworth; and Miss Louise Crawshay, of Reading. Some white Dorking chickens, of Mr. Henry Allsop, of Burton-on-Trent, and two cocks of Captain Townshend, were very fine birds. A Dorking cock, twenty months old, the property of Mr. Henry Lingwood, of Needham Market, which won the first prize, is a magnificent bird, and was bought by Sir Joseph Paxton, M.P., for ten guineas.

Of *Cochin-Chinas*, the Rev. George Gilberts', of Norwich, Chickens, displayed extraordinary maturity; and they were immediately sold at the price set down—ten guineas. The brown and partridge-feathered, over one year old, were not numerous; but the specimens are good—the finest birds being the property of Mr. B. Ford, of Ide, near Exeter. The white Cochins were very finely developed; and some birds shown by Sir Joseph Paxton, Mr. William Dawson, Mr. Henry Lee, of the Isle of Wight, Mr. William Mansfield, of Dorchester, and Mr. Thomas Stretch, of Bootle, near Liverpool, deserved a more than passing notice on the part of the visitor. The *Brahma Pootras* were in unusual number; and among them were some remarkable, finely-formed, and heavy birds.

Game Fowls in all their varieties were admirably represented, and exceedingly beautiful. Messrs. Andrews, Baily, and Hewitt, the judges of the poultry, expressed their opinion that the "duckwing" varieties were the best that have ever been exhibited. Of the *Hamburghs*, Mr. Rice R. Clayton, of Slough, showed a very beautiful pen of gold-pencilled, over one year, which has received the second prize; and he is also the winner of the first prize for a cock and two pullets of the same variety. A cock and two hens, shown by Mr. E. Archer, were exceedingly clear and distinct in their silver pencil markings; and the plumage of some chickens shown by the same exhibitor was very perfect, considering the age of the birds.

The *Polish Fowls* were most excellent.

There never was a better display of *Bantams* than in the present exhibition, and they excited very general admiration. Every variety of these miniature fowls was represented by some one or more as perfect in form and plumage as could possibly be imagined.

The *Geese* made up in weight what they wanted in numbers. A gander and two geese, shown by Mr. Daft, of Southwell, were perfect giants of their kind: and others, only seven months old, shown by Mr. S. C. Baker, of the Pheasantry, Chelsea, were perfect marvels of good feeding.

The *Ducks* showed equally satisfactory signs of precocity in coming to maturity. Some white Aylesbury, showed by Mr. John Weston, of Aylesbury; some by Capt. Townshend; and some Rouen, by the Rev. T. Fellowes, and by Mr. Theed, of Rye-close, Bedford, deserved, and some of them obtained, the highest prizes from the Judges.

The *Turkeys* were also large and well fed.

The show of *Pigeons* was declared by Messrs. Bellamy and Cottle, the Judges, to be the best which has ever taken place. Although we miss the names of one, at least, of the regular exhibitors, we perceive those of several fresh competitors.

There was a larger number of sales during the day, many of the specimens fetching rather high prices; and the total amount realised by the sales exceeded £200.

The following is a list of the prizes awarded:—

Spanish.—First, G. Botham. Second, J. Busst, jun. Third, Miss M. L. Rake. Fourth, G. Botham. *Chickens.*—First, J. R. Rodbard. Second, C. Carey. Third, Miss M. L. Rake. Fourth, J. R. Rodbard. *Cock.*—First, G. Botham. Second, Master M'Gregor Rake. Third, Rev. J. D. L. Simmonds.

Dorking (Coloured).—First, Hon. W. W. Vernon. Second, Rev. G. Hustler. Third, Rev. S. Donne. Fourth, J. Frost. *Chickens.*—First, Capt. W. Hornby, R.N. Second, E. Archer. Third, Miss F. Franklin. Fourth, H. Lingwood.

Dorking (White).—First, H. Lingwood. Second, Capt. J. Beardmore. *Chickens.*—First, Capt. J. Beardmore. Second, Mrs. Henry Fookes.

Dorking (Coloured and White).—*Cock.*—First, H. Lingwood. Second, W. F. Hobbs. Third, Mrs. A. G. Brooke.

Cochin-China (Cinnamon and Buff).—First, Mrs. H. Fookes. Second, T. Stretch. Third, J. Crane. *Chickens.*—First, Rev. G. Gilbert. Second, T. Stretch. Third, Rev. G. Gilbert.

Cochin-China (Brown and Partridge-feathered).—First, Mrs. E. Herbert. Second, B. Ford. Third, G. C. Adkins. *Chickens.*—First, J. K. Fowler. Second, Rev. G. F. Hodgson. Third, J. Busst, jun.

Cochin-China (White).—First, W. Dawson. Second, R. Chase. *Chickens.*—First and Second, H. Loe, jun.

Cochin-China Cocks (Coloured and White).—First, W. Manfield, jun. Second, Mrs. E. Herbert.

Brahma Pootra.—First, G. Botham. Second, Rev. F. Thursby. *Chickens.*—First and Second, R. Teebay. *Cock.*—First, Hon. W. W. Vernon. Second, G. Botham.

Game (White and Piles).—First, J. Monsey. Second, Rev. G. S. Cruwys. Third, S. Ridley. *Chickens.*—First, J. Monsey. Second, Rev. G. S. Cruwys. Third, S. Matthew.

Game (Black-breasted and other Reds).—First, W. Ballard. Second, W. Buncombe. Third. Capt. Hornby, R.N. *Chickens.*—First, Capt. W. Hornby, R.N. Second, R. R. Sewell, M.B. Third, W. Cox.

Game (Black and Brassy Wings, except Grey).—First, withheld. Second, J. P. Brindley. Third, J. Jennens. *Chickens.*—First, H. Parry. Second and Third, W. Ballard.

Game (Duckwings, and other Greys and Blues).—First, W. Ballard. Second, W. Dawson. Third, S. Matthew. *Chickens.*—First, W. Burgess. Second, H. Shield. Third, T. W. Pearse.

Game Cocks.—First, J. Martin. Second, J. Monsey. Third, R. R. Sewell, M.B.

Hamburghs (Gold-pencilled).—First, R. Hawksley, jun. Second, R. R. Clayton. Third, T. P. Mew. *Chickens.*—First, R. R. Clayton. Second, R. James. Third, C. R. Titterton.

Hamburghs (Silver-pencilled).—First, E. Archer. Second, Rev. J. A. Briggs. Third, Mrs. Amery. *Chickens.*—First, Second, and Third, E. Archer.

Hamburgh Cocks (Gold or Silver-pencilled).—First, Rev. T. L. Fellowes. Second, E. Archer.

Hamburghs (Gold-spangled).—First, W. R. Lane. Second, G. Brook. Third, Rev. T. L. Fellowes. *Chickens.*—First, I. Davies. Second, E. Boswell. Third, M. H. Broadhead.

Hamburghs (Silver-spangled).—First, G. Botham. Second, Messrs. Bird and Beldon. *Chickens.*—First, Mrs. Pettat. Second, E. Boswell. Third, W. H. Swann.

Cocks (Gold or Silver-spangled).—First, I. Davies. Second, W. G. Perfect.

Polish (Black with White Crests).—First and Third, T. P. Edwards. Second, T. Battye. *Chickens.*—First, G. S. Fox. Second, J. Bamforth. Third, T. Battye.

Polish (Gold).—First, J. F. Greenall. Second, J. Conyers, jun., Third, H. Churchill. *Chickens.*—First, J. F. Greenall. Second, Mrs. Pettat. Third, C. E. Coleridge.

Polish (Silver).—First, G. Greenall, jun. Second, G. C. Adkins. Third, R. W. Fryer. *Chickens.*—First, P. H. Jones. Second and Third, Mrs. Pettat.

Polish Cocks.—First, G. Greenall, jun. Second, Mrs. Pettat.

Malay.—First, W. Manfield, jun. Second, R. Burrows. *Chickens.*—First, W. Rumsey. Second, J. Leighton.

Any other Distinct Breed.—First, G. M. Greenall, jun. Second, W. Grove. Third, Rev. T. L. Fellowes. Fourth, W. Dawson.

Bantams (Gold-laced).—First, M. Leno, jun. Second, Rev. G. F. Hodson.

Bantams (Silver-laced).—First, U. Spary. Second, Rev. G. S. Cruwys.

Bantams (White).—First, T. P. Mew. Second, Rev. G. S. Cruwys.

Bantams (Black).—First, R. Hawksley, jun. Second, M. Ridgway.

Bantams (any other variety).—First, J. Crosland, jun. Second, W. S. Forrest.

Geese (White).—First, G. Daft. Second, J. Conyers, jun. Third, W. Manfield, jun.

Geese (Grey and Mottled).—First, S. C. Baker. Second, T. Williams. (Third withheld.)

Ducks (White Aylesbury).—First, J. Weston. Second, B. Ford. Third, J. Seamons.

Ducks (Rouen).—First, Rev. T. L. Fellowes. Second, Rev. T. W. Pearse. Third, W. G. K. Breavington.

Ducks (any other variety).—First, H. Churchill. Second, A. D. Bartlett. Third, Rev. Dr. Allen.

TURKEYS.—First, R. Brand. Second, J. R. Rodbard. Third, T. Williams. *Poults.*—First, R. Brand. Second, W. Cox. Third, Miss I. G. Loraine.

GUINEA FOWL.—Prize, Miss F. Macdonald.

KIRKCALDY POULTRY AND FANCY BIRD SHOW.

THE second annual exhibition of Poultry and Fancy Birds was held in the Assembly Rooms on Monday last; when a large and an excellent show of stock was exhibited, which attracted a very large assemblage from all parts of the country to witness it.

It would be invidious to particularise where all were so good; but it may be said, without any hesitation, that the *Spanish*, both old and young, were very superior, and much better than last season.

The show of *Dorkings* was also considerably improved from last years; and there were many more exhibitors from the country than before.

The *Cochins* were well represented by Lord Loughborough, and Mr. Redpath, Edinburgh, who showed some beautiful fowls.

The show of *Game* birds was large, and there were some very fine specimens of these noble birds; but several of the pens were badly matched. The *Bantams*, *Ducks*, *Turkeys*, and *Pigeons* were few, but good of their kinds.

Some other very beautiful fowls were also sent in for exhibition, including *Siberians*, *Golden-spangled Hamburghs*, &c.

The Judges were Messrs. Brown and Stewart, Perth.

The Sweepstakes in each class were for birds of any age, and open to all Scotland.

SPANISH (bred by Members in 1857).—First (Silver Medal), J. Redpath, Edinburgh. Second, R. Lockhart, Kirkcaldy. Third, —Cameron, Balbarton.

DORKINGS (bred by Members in 1857).—First (Silver Medal), Mrs. Oswald, Dunnikier. Second, Rev. — Haxton, Pathhead. Third, A. Lockhart, Kirkcaldy.

COCHINS (bred by Members in 1857.)—First (Silver Medal), and Second, Lord Loughborough. Third, J. L. Gow, Raith.

AYLESBURY DUCKS (bred by Members in 1857).—First (Silver Medal), Col. Ferguson, M.P., Raith. (Second and Third withheld.)

SPANISH (Sweepstakes).—First, J. Redpath, Edinburgh. Second, R. Lockhart, Kirkcaldy. Third, J. Jamieson, Kirkcaldy.

DORKINGS (Sweepstakes).—First, A. Lockhart, Kirkcaldy. Second, T. Y. Darling, Skeddoway. Third, J. Jameison, Kirkcaldy.

COCHINS (Sweepstakes).—First, J. Redpath, Edinburgh. Second, Lord Loughborough, Dysart House. Third, Mrs. T. Peter, Methel Hill, Kirkland.

GAME (Sweepstakes).—First, T. Blyth, Borland, Dysart. Second, D. Jackson, Burnt Island. Third, J. Stocks, Burnt Island.

BANTAMS (Sweepstakes).—First and Third, J. Young, Newbegging, Burnt Island. Second, J. Redpath, Edinburgh.

DUCKS (Sweepstakes).—First and Third, J. Jameison, Kirkcaldy. Second, J. Young, Newbegging, Burnt Island.

TURKEYS (Sweepstakes).—First, J. Young, Newbegging, Bt. Island. Second, Col. Ferguson, M.P., Raith.

POUTER PIGEONS.—First and Second, J. McLean, Edinburgh.

PARROTS.—Prize, G. D. Lockhart, Kirkcaldy.

CANARIES.—*Yellow Cock.*—First, J. Rodger, Pathhead. Second, W. Bonthrow, jun., Kirkcaldy. Third, D. Laing, Kirkcaldy. *Buff Cock.*—First, J. Rodger. Second, D. Laing. Third, P. Wilson. *Yellow Hen.*—First and Third, B. Berry. Second, D. Laing. *Buff Hen.*—First, W. Bonthrow, jun. Second, D. Laing. Third, J. Rodger. *Yellow Belgium Cock.*—First, W. Bonthrow, jun. Second, P. Wilson. *Buff Belgium Cock.*—First, W. Bonthrow, jun. Second, P. Wilson. *Yellow Belgium Hen.*—First, W. Bonthrow, jun. Second, P. Wilson. *Buff Belgium Hen.*—First, W. Bonthrow, jun. Second, P. Wilson. *Yellow Piebald Cock.*—First, P. Wilson. Second, J. Herdsman. *Buff Piebald Cock.*—First, W. Bonthrow, jun. Second, P. Wilson. *Yellow Piebald Hen.*—First, P. Wilson. Second, J. Herdsman. *Buff Piebald Hen.*—First, P. Wilson. Second, J. Herdsman. *Male Goldfinch Mule.*—Prize, J. Herdsman.

NESTS AND FOOD.

A NEW year is now opening; and, probably, many persons will begin to keep fowls who have never done so before. Therefore, I send you a few irregular and unconnected notes on poultry keeping, which I have learned by experience—in some cases by *sad* experience. It is a great pleasure to write once more for the benefit of my brother poultry-keepers; and to disseminate mutual instruction in the pages of your delightful paper.

Now, with regard to *nests*, I have a few words to say. Beginners are very prone to suppose, that the nest of a sitting hen should be made as *hot* and *dry* as possible. Nothing is a greater mistake. The nest should be moist, cool, and as like nature as possible: and the best sort of nest is one made of dry heath, cut up into short lengths, and laid on a round piece of fresh green grass, which, in its turn, should rest in a small indentation in the ground. And when the hen is feeding, the eggs (in summer), should be sprinkled slightly with water. Half the disappointment in poultry breeding, arises from improper nests. Yet, *continued* damp ought to be guarded against more than anything; and to effect this, the roof and walls of the fowl-house should be well-closed, save two small holes covered with muslin for ventilation. The floor should be of gravel: but, whatever the material, a little straw should be thrown over it, and renewed each morning; because the manure created during the night can then be easily and regularly removed: and also nothing conduces more to the health of fowls, than giving them a little straw to scratch in. Plenty of ashes should be provided for them to busk in, and a handful of flowers of sulphur. For we must recollect, that fowls may thrive on very little food, if they are kept very clean and moderately warm; but if they are fed ever so richly and profusely, and attention be not paid to cleanliness, they will pine, become diseased, and die.

The importance of green food, especially to young chickens, cannot be over-rated: and also regular feeding is of the utmost importance. Regular and moderate feeding—only giving fowls *just as much as they will run after*, is far better than leaving food always in their reach. Attention to this rule would prevent much disappointment, loss, and expense.

People also are fond of keeping too many fowls, in proportion to space. Remember, six fowls properly housed and fed, will lay far more eggs than fifty crowded ones.

Then, persons are too prone to choose breeds of poultry unfitted for their locality. And on this subject, and on the diseases of fowls, I will say more hereafter.—A WILTSHIRE POULTRY-KEEPER.

GAME BANTAMS.

I WAS much pleased to see this subject taken up by "DANDY," "MERRYLEGS," &c., in some of your recent numbers; and have been patiently hoping the matter would have been more fully gone into, by *breeders*, or more directly responded to by *Secretaries of Shows*. This not having been done, I think it behoves those interested in the breed of Game Bantams again to call the attention of Secretaries, and others; in order, if possible, to induce them to hold out some little more encouragement during the next year.

We find each fancy breed with its long list of admirers; and this is well, as proved by the near approach to perfection, which some of the birds have attained: but I think I may safely venture to assert, that none really rank higher in the estimation of the majority of poultry breeders, and fanciers, too, than the true-bred Game fowl; and, in England, I imagine this breed will ever stand second to none. Now, let me ask what more pleasing sight could a fancier wish to gladden his eyes with, than the Game cock in miniature? It is useless my rapturously detailing its many points now; but I do wish to see the Game Bantam taking a more conspicuous part, than it, at present, enjoys, at *all* our Exhibitions.

I am quite at a loss to know what the Judges of the present day can see in the Laced, Blacks, and Whites, to give them a superiority over their little Game brethren; unless it is, that the former have already become more nearly perfect: but if so, then, this strengthens my argument, that the managers of Shows should give breeders of Game Bantams more encouragement.

A few years ago, the Laced birds sold readily at 30*l.* or 50*l.*; but the same would, with difficulty, now fetch the single figures, 3*l.* or 5*l.*: and why not so encourage Game, that we should reduce the price of a pen now marked 50*l.* or 100*l.*, to a much more get-at-able price?

I say, then, breeders *must* have encouragement; for they are at much trouble and expense, in breeding *true* Game Bantams. And I sincerely hope, in the programmes of this year, to see the diminutive creatures equally cared for, with their more extensive progenitors.

I want to see several distinct prizes, for distinct specimens of *Game* Bantams, and the prizes to be of a respectable value;

as the Judges can always have the power to withhold a prize, if they do not deem the birds sufficiently meritorious.

This year I intend to offer, at some local Exhibition, a prize for Piles, or Duckwings, or some other variety of Bantams, providing the Committee will offer an equal prize for Black-breasted or other Reds, or some such arrangement as we may decide upon when the time comes; and I hope to see others doing the same.

I should be glad if you would, at the foot of this, state your views; as I fancy a few words from a quarter which stands so high in the poultry world, will add much weight to anything brought forward by private subscribers.—S. H.

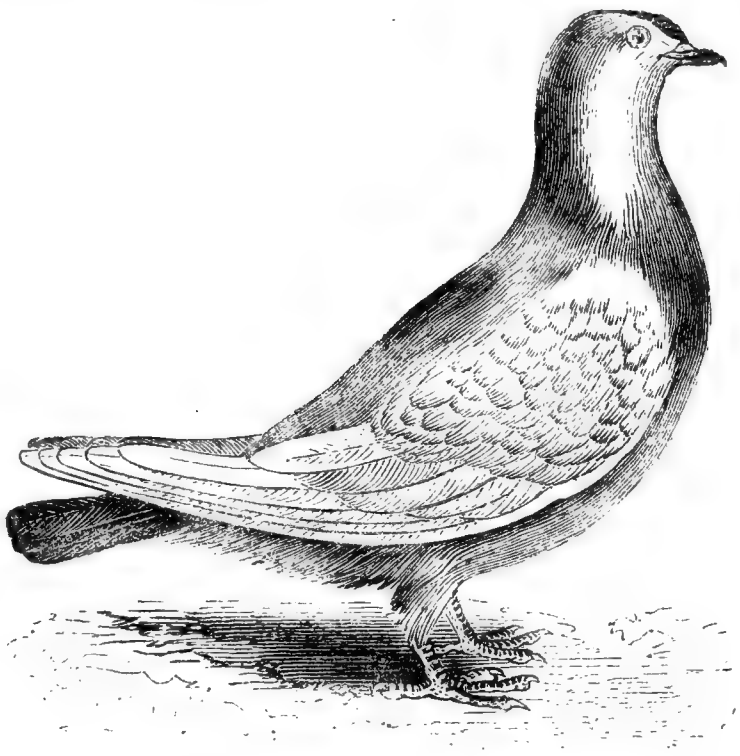
[There are various considerations which must regulate the prizes given at Exhibitions. The principal one of those considerations is the funds of the Society. If the exhibitors of Bantams, taken altogether, contribute as much to the Society's funds as the aggregate of exhibitors in any other class, that is a substantial reason for the prizes given being alike for the two classes. Poultry exhibitions ought to have, however, a higher object than the reward of mere beauty; and we cannot give as our opinion, that Bantams merit for their improvement such rewards as ought to be given to the improvers of Dorkings, Turkeys, and Geese. It is a national benefit—and adding to its resources, increasing the weight of these: and we cannot say breeding the most perfect of Bantams, however beautiful, deserves an equal reward, as does increasing the food of a nation. We refrain from further remarks, because a suggestion has just reached us which may lead to a different arrangement of prizes at Poultry Shows.—Ed. C. G.]

PIGEONS.

TOYS.

Variety 10.—THE SPOT (*Columba Maculata.*)

French. Pigeon Heurte. *German.* Die Blesz Taube.



The Spot is one of our oldest-established Toy Pigeons, and very widely diffused. It is supposed to have been first introduced into this country from Holland. The name is derived from a coloured spot on the head.

In size, form, and manners, they resemble the common dove-house Pigeons. They are pretty, very productive, and well adapted to find their living in the fields. They are sometimes turn-crowned, though generally smooth-headed, and clean footed; the eye is dark, the upper mandible is also dark, and the lower white; on the front of the head, above the beak, is an oval coloured spot, from which they derive their name; and the tail is also coloured; the rest of the plumage is a clear white. Spot and tail are of the same colour, either black, blue, red, or yellow; and they are designated Black, Blue, or Red Spots, according to the colour of spot and tail, which are alike.

A sub-variety is sometimes met with, with the spot only coloured, the tail being white, like the rest of the plumage: but these are but little regarded, as they are supposed to be bred from a Spot, and some other white Pigeon.

Variety 11.—THE WHITE SPOT.

German. Die Weiszblessige Taube.

The White-spot reverses the marking of the preceding: it is a coloured Pigeon with a white spot.

In Saxony, and some parts of Germany, they are very plentiful; a few have been brought to this country, but I have not seen or heard of any in France.

In shape, make, and habits, they much resemble the dove-house Pigeon; but are a little smaller, more slightly made, rather more active, and wilder, and willingly beat out into the fields for their living: their feet are frequently slightly feathered.

The upper-half of the bill should be white, while the lower is dark; above the beak they have an oval white spot; and the tail is also white, the rest of the plumage being coloured.

Herr Gottlob Neumeister, informs us, this breed of Pigeons are bred of two or three extra markings, as, for instance, whole coloured bodies, with white wing-bars; and also with spangled shoulders. He arranges them in five classes, or sub-varieties as follows:—

1st. The Black White-spot, without or with white wing-bars, and also with spangled shoulders, ("*Karpfens-chuppenartigen Flügeln.*")

2nd. The Blue White-spot, with the same markings as the first.

3rd. The Red White-spot, without wing-bars, &c.: colour, a fine copper-red.

4th. The Yellow White-spot, also without wing-bars, &c.: colour, a brownish yellow.

5th. The Copper-shouldered White-spot: in these, the colour is dark-slate colour; the neck has an olive-green gloss; the scapular feathers and the wings are a dark shining copper-red; the under parts are of a paler slate colour.

In Germany, both varieties of Spots are sometimes called "*Masken Tauben,*" or Masked Pigeons.—B. P. Brent.

OUR LETTER BOX.

Indian Corn—Spanish Fowls (*A. S. B.*).—If chickens are fed entirely on Indian meal they become very fat; but they make neither bone nor hard flesh as they should do—or as they would, if fed on oatmeal. Adults fed on it become enormously fat, especially inside, and frequently die from it. This fat melts away in cooking: and the lean of an animal fed on it is hard and badly flavoured. Numerous experiments have been tried on poultry, and this is the invariable result:—the white face is *the point* of a Spanish fowl; but it must be allied with longish taper legs, fine plumage, proper comb and carriage, and the tapering body of the breed. A white face on an ordinary black hen would not make a Spanish fowl. Having once attained the white face, the bird never loses it but at moulting time, or if chased for the purpose of catching. There will often be seen a little mixture of red. There is hope that a hen a year old will outgrow a red streak. It is common for them to do so: but not so with a cock of the same age. Experience tells us such is a hopeless case. You may as well try to wash an Ethiopian till he is white, as to make a red-faced Spanish fowl assume the same colour—it is an impossibility. There are, doubtless, processes by which a more decided or a more beautiful colour may be attained; but it cannot be preserved. Say, for instance, that heat is employed: and that an amateur in Yorkshire carefully coddles his fowls till they are as pale as children subjected to the same process; and then, let them travel all night to the Crystal Palace in the frost and cold. Their pale faces will be as purple as an errand boy's, when he stops to tell his grievances to a kindred spirit, and breathes on his fingers to keep them warm.

LONDON MARKETS.—January 11th.

COVENT GARDEN.

Our supplies continue abundant, and prices ruled moderate accordingly; the late frost having very little influenced us. *Pears* now comprise *Beurré Rance, Easter Beurré, Knight's Monarch, Ne plus Meuris,* and some few *Colmas;* but the latter variety has not ripened well. Hothouse *Grapes* are excellent, and in unusual abundance; realizing from 6*s.* to 8*s.* per lb.: some of which are still being sent from Jersey. Waterside reports speak of dulness in the *Potato* trade; but prices have not receded during the week.

London: Printed by Hugh Barclay, Winchester, High-street, in the Parish of Saint Mary Kalendar; and Published for the Proprietors, at The Cottage Gardener Office, No. 20, Paternoster Row, in the Parish of Christ Church, City of London.—January 12, 1858.

WEEKLY CALENDAR.

D M	D W	JANUARY 19—25, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
19	Tu	Erica Wilmoreana.	30.256—30.187	48—25	N.W.	—	58 a. 7	24 a. 4	9 a. 31	4	11 3	19
20	W	Erica Linnæoides.	29.730—29.308	44—29	S.W.	—	57	26	10 51	5	11 21	20
21	Th	Fuchsia dominiana.	29.679—29.447	39—24	W.	—	56	27	morn.	6	11 38	21
22	F	Gastrolobium acutum.	29.791—29.510	43—32	S.W.	.02	55	29	0 13	☽	11 54	22
23	S	Heliotropium.	29.355—29.145	45—31	W.	.04	54	31	1 39	8	12 10	23
24	Sun	3 Sunday after Epiphany.	29.126—29.062	42—33	N.W.	.17	52	33	3 8	9	12 25	24
25	M	Conversion of St. Paul.	29.594—29.229	39—30	N.E.	.05	51	34	4 38	10	12 38	25

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 43.3° and 32.5°, respectively. The greatest heat, 60°, occurred on the 19th, in 1828; and the lowest cold, 4½°, on the 19th, in 1838. During the period 125 days were fine, and on 92 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 210.)

DRY PAPER PROCESS.

Suitable for Tourists.

N.B.—Apparatus the same as for Wet Paper Process, page 173.

Turner's negative Talbotype paper.

(Price, 15 inches by 9 inches, per quire, 2s. 6d.)

Before starting for his tour, the photographer should prepare a good stock of iodized paper.

Preparation of Paper.

Solutions.

	Cost—s.	d.
A.—(Iodizing solution.) 2 ozs. of double iodide of silver	3	0
B.—(Exciting solution.) 100 grs. nitrate of silver, 3 drms. glacial acetic acid, 2 ozs. distilled water - - - - - - - - -	1	6
C.—(Developing Solution.) 10 grs. gallic acid in 2 ozs. distilled water - - - - - - - -	0	6

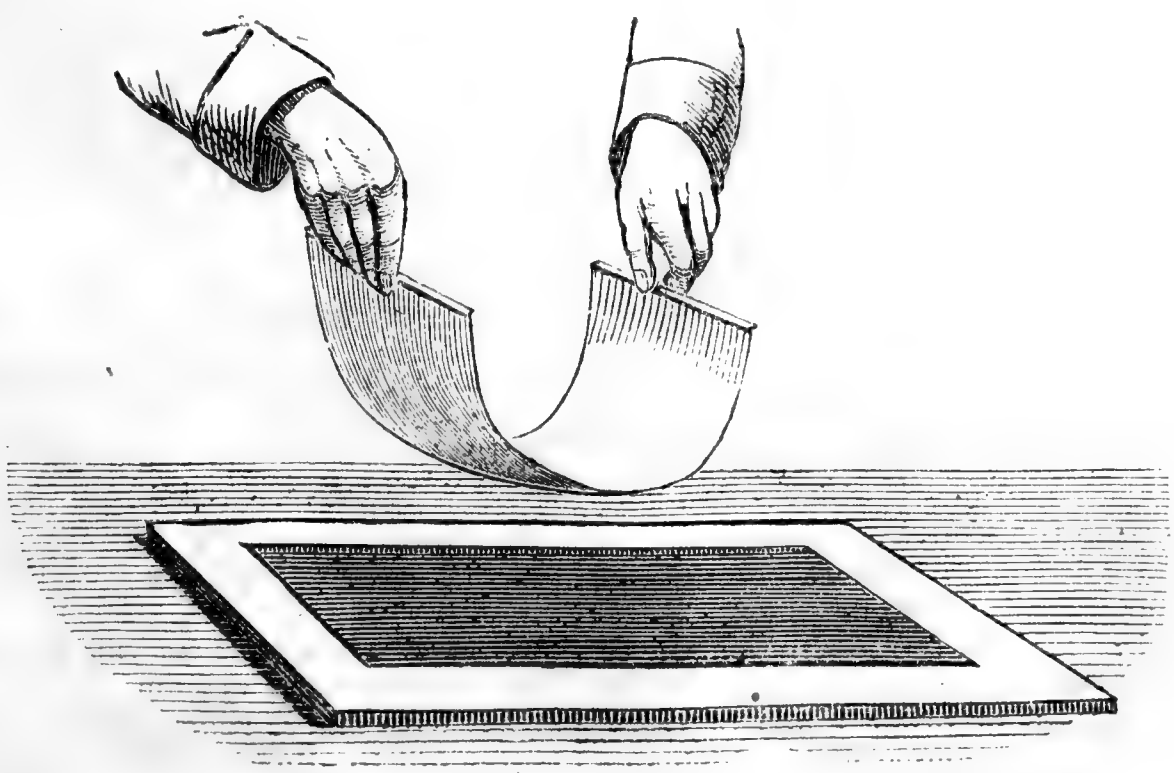
A small quantity of solution A, is poured on the level sheet of plate glass. On this the paper is lowered (see fig.), and one side suffered to imbibe the iodide. When saturated, each piece is placed in a large pan of clean water for an hour. The prepared sheets may then be hung up to dry, and should appear of a bright primrose colour.

This iodized paper can be placed in a dry portfolio, and packed up with the tourist's other apparatus in the following manner:—Camera, containing solutions B and C (packed in a large bag composed of three thicknesses of yellow calico, and at its mouth an elastic ring); Stand; Plate of glass, rather larger than the camera frame; and an extra Portfolio.

Arrived at his destination, the photographer unpacks his apparatus by candle light; and having placed the preparing glass on a table, pours thereon a little of solution B.

He then suffers a sheet of the iodized paper to absorb the solution on its prepared surface. It is then pinned up; and, when dry, transferred to a dark pocket in the portfolio, which, being encircled with an India rubber band, is placed in the calico bag, ready for use in the morning.

If the next day be favourable for the production of pictures, the artist sallies forth with camera (empty), bag, and stand. On arrival at any choice scenery, the tripod is fixed firmly, and the view focussed; when a sheet of prepared paper can be transferred to the camera frame without exposure to actinic light, by means of the yellow bag. (N.B.—During this operation beware of bulls.)



The frame is then attached to the camera, and the slide withdrawn for a period varying with the intensity of the light. The picture taken, the frame is returned to the yellow bag; the impressed paper (on which the image is not in all cases apparent), placed in the view part of the portfolio. Another piece of prepared paper is then transferred to the frame, in readiness for the next subject.

In the evening, out comes the portfolio from its confinement in its yellow prison; and the sheet of glass is cleaned and placed on a level table. A little of solution C is poured thereon; which the photograph is suffered to absorb, on the impressed side. The picture, thoroughly developed, is well washed in water, and placed in the extra portfolio; where it is protected from the effects of light until the photographer returns home, when all the satisfactory pictures are carefully fixed with hyposulphite, as described at page 173. When dry, they are ready for printing from in the pressure frame (page 109).

Although our description may appear complicated, this process will be found remarkably simple in practice.

(*To be continued.*)

WHAT IS THE USE OF VINE LATERALS?

To those who may not know what laterals are, it may be sufficient to say, that they are the side-shoots which grow out of all the young growths, or season's growth, of a Grape Vine; and that one lateral comes from every eye, or bud, almost as soon as the bud is formed. These side-shoots, or laterals, are always very much smaller than the shoot from which they grow; but every Vine, whether in or out of doors, in a pot, or in the vineyard, is sure to have a lateral at every eye of the young wood of the current season's growth. Therefore, any one may see what a lateral really is by looking at a Vine in growth, no matter how it grows, or where. All that the student has to mind, after this, is, that all laterals are the same to a Vine-shoot as the side-shoots are to the branches of all other trees *during only the first season's growth of those branches.*

But there is this very great difference between the nature of a Vine lateral, and the side-shoot of any other plant—it never, under any circumstances, aspires to excel in size the branch which bears it. There is another property that belongs to the Vine lateral, which is not a part of the office of a side-shoot of a great number of kinds of trees,—which property is this: If, by accident, or by the hand of the Vine-dresser, a shoot be broken, or cut off, the lateral from the uppermost bud will take the place of the broken, or cut part; and, by so doing, it prevents the buds immediately below the cut part from breaking into shoots, and forming rival leaders; as often happens when the leading shoot of an Oak, and many other trees, gets injured, and unfit to keep the lead.

Hence we may compare the growth of the Vine to military discipline: no lateral, or other officer, is allowed to take the lead as long as the leading shoot, or general, is alive, or fit for duty; while the Oak, the Elm, and Ash, and hundreds of other kinds of trees, must be likened to a private company, in which one of the laterals, or members, may turn up any day, and aspire to take the lead; and two or three more of them may do the same thing, and at the same time, while the proper leader of the party is still going on in the right direction.

When the leader of the Oak, the Elm, the Ash, and the rest of them, gets injured, or is kept back by a rival, a side-branch of the nature of a lateral never takes the lead, or becomes the rival: it must be a stronger kind of branch from a better-placed bud. Here, then, we first come to the necessity of pruning the Oak, and other such trees. But some say that trees should not be pruned at all; that the more branches there are, the more leaves; and the more of them, the more work, and the most timber: which may be all very true, or not quite true, according to circumstances. But, then, the value of the timber comes in for consideration; and one tree may have a load more timber in it than another of the same kind, and yet be not worth more than one-third of the price of the latter: the pruning makes all the difference. One tree, at an early age, as we have just seen, went wrong, on the principle of a "limited" or an unlimited company; half a dozen leaders took each their share of the circulating medium, and something more; and before the tree was much more than a shrub, it was a fit object to the eye of taste, perhaps, and to a poet's eye as well. It assumed the natural characteristics of that kind of tree, sure enough; two good qualities, however, which, if put together, would fall far short of the requirements of the dock-yard and Sir Charles Wood. Therefore, if Sir Charles is to give the best price, the forester must cut off the heads of five of the company, and so encourage the natural and true leader to have the whole management of the Oak firm to the end of the chapter; and not only that, but he must keep a constant eye on all the members, to see that no more of them take to bad habits, or extravagant ways; and that the whole company is never too much crowded together in hot weather.

In a forest, for ornament or for deer-stalking, no pruning is necessary. The same thing happens there, or rather comes natural, as in a single tree: so many trees take the lead, and keep it, like so many leading shoots. But bring the whole forest down to, or under, the hammer: when the deer may take to the mountains, but the owner must take less than five shillings in the pound of the value of what the concern might realise if it had been put under a skilful manager from the outset. Hence the difference between pruning and no pruning; the value of growing timber for use, or for ornament.

What is the use or value of Vine laterals, therefore, seeing that we do not grow the Vine for timber, and very seldom for ornament? The answer to this question would, probably, assume as many aspects, as the answers to the way I pruned the experimental Vine; therefore, the best gardener amongst us would, as likely as not, be the farthest from the true solution; and yet we, all of us knowing and experienced gardeners, are well aware of one of the uses of laterals in Vine forcing: the powerful assistance they give to the swelling and the ripening of Grapes, when the Vines are, by necessity, owing to the wantof proper space, obliged to be pruned so hard, that is, so short, that without the assistance of the secondary leaves on the laterals, there would not be a sufficiency of leaf-surface to convert the juices, or digest the food for the proper formation of the Vine's growth, and blood for the Grapes—the necessary quantity and quality of secretions for the different parts.

Under a proper system of long-rod pruning *out of doors*, with ample room, in such a climate as ours, it is better not to allow a single lateral on a whole Vine,

but to devote the whole space for the sole use and benefit of the principal leaves. A process, by-the-by, which is still questioned by good practicals, reasoning from their in-door practice; a process, too, which few scientific men, who have not the *nack* of applying theory to practice, recommend.

Others, again, who do not rightly understand the application of theory to practice, in the forcing of Vines, deny the value of the assistance of the lateral leaves under glass, or, indeed, under any very restricted mode of pruning; and it is for the use, and, I hope, for the conviction and conversion of this latter class from their heresy, that I have taken up my pen to-day: but, instead of going into a scientific ramble on the vexed question, I shall tell the truest and the most practical story about it, which the whole experience of the three kingdoms could furnish at the marriage of the Princess Royal, when Grapes will not, probably, be so dear as when I paid to Mr. Charlwood, in February 1832 or 1833, forty-five shillings the pound. But my story does not go so far back as that; it begins on the left bank of the Orwell, as you go out of Ipswich, towards the Cliff, where Margaret Catchpole was servant-maid long ago. But, perhaps, you have not read "Margaret Catchpole," and, if not, pray get it at some library; it is one of the best books of that class in our language, quite true, every word of it, except some of the names. I know the author—a clergyman of the established church, and most of the family, with all the places embraced in the story, about those parts.

Margaret Catchpole was a little servant-maid at the Cliff; she saved two of her master's sons from being drowned; refused to marry her first sweetheart, who went to Australia; and to get her next lover, a smuggler, out of a scrape, she stole one of her master's best horses, and the groom's clothes, and rode up to London, more than seventy miles, without slackening her pace; for which she was condemned to a long imprisonment in Ipswich jail; but she scaled the highest prison wall I know, joined her William, and on the point of flying the kingdom, he was shot dead before her eyes on the beach. At her next trial, on being asked why sentence of transportation for life should not be passed upon her, the reasons for mercy, in her appeal to the Judge, are the most affecting in the annals of the circuits, and the most stirring in truth or fiction; but you must read the book, and see how she got on in Australia. How her good and kind mistress never lost sight of her in all her trials, and in her prosperity. How and whom she married, and when and where she died. And my story goes on to another maid, who once filled Margaret Catchpole's "place" at the Cliff. She is now landlady at the "Fountain" public house, very near the Cliff; and her husband is a good Grape grower—a man full six feet high in his stockings, and a model of a Life-guardsman. When I was in Suffolk, he used very often to ask my advice about his Grapes, of which he used to be rather proud: but he came in one morning in "such a plight," as I shall never forget; I never saw a man "so took to" before or since. He was as pale as death, and shook like an Aspen Poplar, wringing his hands in agony, and utter despair. The first idea which struck me was that his wife and children had been burnt in the night. No; but he wished he had been. "Oh! what shall I do?" and I could get no more out of him. At last he told me "it was about the Grapes." "About fiddlesticks," said I. "Is that all you are making such a piece of bother about?" "But, oh! what shall I do? Will you come over and see them?" I did: but I could not keep up with him, he was so long in the legs that I had no chance; and if he had committed suicide, and I were seen running after him, it might look awkward; but when he opened the vinery door, I saw, and understood the weight of his sorrow. A beautiful house of Grapes, good wood, and half-grown bunches; but every leaf in that house, from end to end, and from back to front, hung down perpendicularly from the rafters and rods, and looked very much like soft pieces of bladder, and they were nearly of that colour. I should never have believed the sight unless I had seen it. I have seen all kinds of deaths, from tobacco, sulphur, ammoniacal liquor, hot dung, tan, and leaves, but nothing of these kinds of deaths did this destruction resemble. There was not a curl on the edge of a single leaf in the house; the green colour entirely gone; the footstalks were soft and pliable as the blades of the leaves; and there was no appearance in the house to indicate the cause of such utter destruction. Nor can I explain to this day the reason why the leaves were as if they were out of the washing-tub that morning: but so they were. The time was early in June, and early in the day, and no time was to be lost. I advised that the glass and walls be heavily syringed inside and out, which would keep the house cool; to open the two doors, one at each end; to flood the paths, and to darken the glass by some kind of covering, which was to be kept syringed and wet all day, and so to be for a week or ten days, or till a visible change could be reported; and I asked for the exact process of management, or mishap, by which such unusual effects were brought about: and here it is.

There was a bed along the centre of the house which was filled, in the autumn before, with mixed leaves and a little fresh littery dung from a stable, at the bottom. All this was very much stamped, or pressed down, at the time, and some leaf mould put over it to plunge pots in, and, I believe, some common shrubs to force for bloom; but the heat never rose to the surface "kindly;" and, at the time of the accident, this bed was turned, or part of it, the previous day, and much water was thrown on the half-spent leaves, because they were dry and "musty," and also to raise a gentle vapour for the benefit of the swelling Grapes; which was the only reason he could give for "turning" such a bed at so unusual a period. Hearing this, I also advised that the surface of the bed to covered with some sweet, fresh earth, or compost, or anything to keep down the agent of destruction. The only redeeming point in the case was, that more than the usual length of laterals was allowed on the Vines that season, and but very few of the leaves on these laterals were hurt or discoloured. Here, then, was a practical illustration of the doctrine that leaves do not breathe for a considerable time after they expand. If the leaves on these laterals were so ripe, as the principal leaves must have been, they, too, must have gone, from breathing the poisoned air. The fact that the laterals were not stopped beyond the second joint, in the usual way, must have retarded the ripening of the leaves, and thus saved a crop of Grapes. I advised that the laterals should not be stopped till the berries began to change colour; and in ten days the leaves of the laterals began to expand more—much more, than such leaves do under the ordinary treatment. The roof was kept shaded in the middle of the day for three weeks, and the crop ripened well, but was a month later than was first expected. Therefore, the action of the lateral leaves—say six leaves, on an average, to every lateral—was sufficient to mature a crop of Grapes after the whole of the principal leaves were destroyed in the middle of the growing season; and all the philosophy on earth could not demonstrate the value of lateral leaves more than this accident.

Surely, then, the leaves on the laterals must be of immense assistance in ripening a crop of Grapes;

and we may safely infer, that if they were destroyed under a close system of pruning, as is the best practice under the long-rod system in the open air, the Vines would soon yield up their vigour, and be of very little use. The landlord of the "Fountain" was then my Grape-grower, and the accident was under my own practice. D. Beaton.

TREATMENT OF UNHEALTHY ORANGE TREES.

"I shall be greatly obliged if you will give me a little advice about an Orange tree, of which I enclose some leaves and tops. I have two Orange trees in the same house. Both have, as far as I know, had the same treatment; but the results are very different, as you will see by the enclosed specimens. I have just entered a new situation, and find everything in a most deplorable condition, with the exception of one Orange tree. By what I can learn, the tree was put into a new box about two years ago. The box is two feet deep, and two feet five inches square. I think it was over-potted, as I took out four barrowfuls of stiff loam till I came to the old ball, and it had not made new roots: it was also without drainage. I have now put nine inches of crocks at the bottom, and a course of bricks all round the box, to make it smaller, which reduces it to twenty inches square of mould. I have now planted it in the soil of an old Cucumber bed, mixed with a little very rotten manure and leaf mould. I have planted it with the old ball: would it have been better to have shaken it out entirely? The tree is old; has a good-sized head; measures ten inches and a half round the stem; in many parts the leaves are curled back, and the points of shoots dying back, as you will see by what I have sent. The house they are in is nearly new, as it has been up about four years. The ends to the east and west front to the south; the back and ends being brick: the front is glass to the ground: also the top lights all glass. I found all sorts of vermin in the house, for which I have used the remedies recommended in The Cottage Gardener. Would it do any good to paint the stem of the Orange tree with anything?

"I also want a little advice about the Vines in the same house, for which a new border was made; and they have had two summers. They made a tolerably good shoot last summer, when they were attacked with mildew. The border is made on a solid chalk bottom; and I think there is no drainage. The border is quite flat: the house is used as a promenade: the floors are kept as dry and white as possible."—L. M.

In a previous volume will be found a full account of how to treat such trees, under a sort of hospital régime, until they are again restored to perfect health. You have, no doubt, suggested the chief causes of the unhealthy state of the plant, and have done so far what was right, as remedial measures; though our modes of treatment might have been somewhat different. The case presents much that is likely to be generally interesting; and, therefore, may furnish the basis of a few general remarks.

The blanched appearance of the foliage, and the dying of the points of the shoots, would seem to show, not only that there was no reciprocal action between roots and branches, but that the roots were in a most unhealthy state, by being surrounded with stagnant moisture. Want of sufficient drainage, and want of due care in watering, would alone occasion the mischief. The over-potting, or over-tubbing, to which you refer, would form, or not form, an auxillary cause; just in proportion to the treatment adopted. The want of sufficient drainage, careless potting, and more careless watering, were the primary causes.

For beginners to see through this thoroughly, they must perceive, that a plant in the open ground, and in a pot or tub, is placed in entirely different circumstances. In the one case it is comparatively independent of our attentions; in the other it is wholly dependent on them. In the one case, if at all favourably situated, the plant is comparatively independent of drought and moisture; as, in the first case, it absorbs for itself moisture from the general mass of ground by which it is surrounded; and, in the second case, extra moisture is just as freely distributed and got rid off. Shut off in a pot from this great earth-regulating medium, a plant gets little moisture, except what you give it. If the drainage is imperfect, it cannot part with an extra supply: and even if the drainage is not so very bad, yet, if the vessel is so large, as to contain a considerable portion of soil, into which no roots have penetrated, that soil, when extra watered, will be apt to become sour and marshy; because its isolated, enclosed condition prevents it being acted upon, as it would have been, whilst remaining a portion of the surrounding soil. This understood, will lead to two inferences. First, that there is least danger in over-watering pots or tubs full, or nearly full, of roots. In their case, the rule of watering may be, not merely water sufficiently to moisten every root, but water so as to moisten every bit of soil: and water again only when required. The second inference is, that there is great danger in over-watering, when the vessel contains a good proportion of earth near the sides of the vessel into which no roots have entered. The unerring rule here, is, "water only so as to reach each root, but do not deluge the unappropriated soil, as that will be kept in a healthy state, as respects moisture, by absorption from the soil thoroughly watered." These matters considered, it will be perceived, that success in frequent small shifts, and success in one or two large shifts, depend more upon watering than anything else; and where hap-hazard watering can alone be depended on, the large-shift system should never be attempted. Attention to this watering given, and provided your plants were healthy, it would be a matter of little moment, whether you gave a small shift or a large one.

In your circumstances, I think you acted wisely, so far as giving nine inches of drainage, and the reducing your box from twenty-nine inches square, to about twenty inches, by placing a row of bricks on beds all round the inside. The same object might have been gained, by a temporary rough box of one-quarter or three-eights-of-an-inch wood, kept by brackets from the sides of the box. The top of this opening might be stuffed with moss to prevent the sides of the temporary box being so much dried. Whatever mode is adopted, you thus, so far, guard against saturating unappropriated soil, with extra watering; and after your soil is filled with roots, you can thus give one or two additions of fresh compost, without disturbing the plant or its roots to any extent.

Two parts of your process, however, you will excuse me for saying, I do not approve of. The first is—planting the old ball without disentangling the roots. In such a case, very likely the roots are as unhealthy and decayed as the tops. Shaking the old *effête* earth from it, might cause some of the good roots that remained to be broken, or fall off. After removing what earth would come away safely and easily, I would place the remaining portion of the ball into a tub of clean water, at a temperature from 50° to 60°; and by moving it gently, and using my fingers carefully, I would get rid of every bit of the old soil. Then taking the roots from the water, I would carefully remove all the decayed parts; and then draw them, so as to thoroughly clean them, through another vessel of clean water, allowing them to remain in it ten minutes or so, so that the roots might imbibe a fair portion of water. I would then prune off all the worst parts of the top, not minding if the diameter of the head were thus greatly lessened. I would then transfer the roots to a vessel that would just hold

them conveniently; pack them carefully in light, fresh loam, with a good portion of drift sand, and if such a thing could be done, I would plunge the pot in a sweet bottom heat of from 70° to 80°, produced by tan, or dung, or leaves; and I should like it all the better, if the steam should rise freely around the stem and the head. To keep these moist, they might be half encased in moss, and frequently sprinkled with water about 75°. As the roots would be filled with fluids before potting, little watering would be wanted, until fresh roots began to push freely. When fresh shoots also began to come away freely, the plant could be gradually hardened, and, ultimately, be transferred to its ornamental tub; and, as before observed, tubbed at once, or made to go through several successive courses of shifting, without moving the plant. During the encouragement of this fresh-rooting and breaking-of-fresh-buds process, the plant will not require much light; and, therefore, a little scheming will soon find a suitable convenience: but light must be freely given, before the young buds have exceeded an inch or two in length.

You will perceive from the above, that I do not approve of your compost for fresh boxing your plant in such circumstances, namely:—"Soil from an old Cucumber-bed, mixed with a little very rotten manure, and leaf mould." Old Cucumber soil, is not generally the poorest sort of soil in itself. You are not however greatly to blame. We have helped to use such material for unhealthy plants, mixed in addition, with a good proportion of quick-lime, to set it all properly fomenting. It is just the old adage, "Dung makes the Barley grow," and therefore, be sure and place plenty of it about a puling, sickly plant! Many of us know how sweet a delicacy, after a hard morning's work, is a thumb-piece of boiled pork and bread (all the sweeter because it has been worked for; and without such earning, the greatest delicacies of the table of the rich, must often pall on the appetite); and, therefore, our knowing nurses were quite right in stuffing a sickly infant's mouth with salmon and bacon! Badinage aside, there can be no question, that when a plant gets in bad health, and you wish to encourage the production of healthy rootlets, the compost used can scarcely be too simple. In the present case, I should have preferred well-sweetened fibry brown loam; lightened with a few pieces of charcoal, and a fair portion of rough, road-drift sand. When roots were freely formed in such simple compost, then I would give strength by weak manure waterings; and when the roots cried out for more room, then I should make such a loam the base of the compost, and add to it a little dried leaf mould, or cow dung. Though, if attention be given to manure waterings, and surface dressings in summer of deer and sheep dung, after it had been partly dried and sweetened; such sweet fibry loam, if not too adhesive, but possessing a fair portion of siliceous matter, would grow the Orange tree well, without any mixture of dung in the soil at all.

If you find any scale on the stem of the Orange, paint it over with clay and sulphur, after washing it carefully with a sponge and soap water.

I do not think there will be much danger of stagnant water in your Vine border, if it has a chalk bottom. At any rate, a few holes made in the chalk, would generally make all right. As the house is used as a promenade, and the floors kept dry and white, I should have imagined the Vines would have been more subject to scorching, and red spider, than mildew, if fair attention were given to air. Paint the shoots now with a thick paint of clay, and flowers of sulphur; and that will help against both mildew and spider. If your house is moderately lofty, and the floor is not much covered, its white surface will give an extra amount of light and heat to the Vines, when the sun shines.

R. FISH.

WORSLEY HALL.

THE SEAT OF THE EARL OF ELLESMERE.

THIS noble pile is situated westwards, about seven miles from the city of Manchester, on a commanding eminence overlooking a rich country, studded with water in the shape of two medium-sized lakes, and the noble Bridgewater Canal. On the 29th of December last, I left Manchester by the half-past eleven o'clock train, on the Manchester and Liverpool railway, to visit this place; and to see the new and the extensive flower garden which was formed last winter and spring. The station to stop at, is Patricroft, at which place, near the station, are the famous works of J. Narysmith and Co., the inventors of the great hammer, that bears their name. I arrived at this station in twenty minutes; and on inquiry of one of the officials, I was informed, that I had to walk about two miles. To this, I had no objection, as the day was a remarkably fine one. The sun was shining mildly through white fleecy clouds; the air was just warm enough to render walking a pleasant exercise; and the anticipation of the pleasure that awaited me, rendered the walk a truly delightful one. The path lay along the banks of the above-named canal; and is evidently kept in order by the noble earl—for there is a good iron hurdle fence next the water, and a broad gravelled road in as good condition as possible. Though there is a lodge at the entrance, there is no exclusion, for the foot-path is open to everybody without question or hindrance.

As I walked on, I noticed the effects of this uncommonly mild season. The grass was shooting up as fresh and green as if it were April; and the young nettles were high enough to be worth gathering to make the health-giving nettle-broth, so famous in the north of England, for curing scurvy, and purifying the blood. The path, or carriage-road—for it serves both for foot and carriage passengers—leaves the canal after a distance, and turns to the right, evidently to avoid a group of coke ovens. To conceal these unsightly objects, a considerable breadth of trees has been planted; they are just at the age to require judicious pruning and thinning, and ought not to be neglected even another year. The trees are healthy, and growing freely; and, as yet, every branch down to the ground is alive. But I observed, half-way up, many branches that were striving for the mastery; and if these are not removed, the lower parts of the trees will perish, and the plantation will be naked at the bottom; and thus expose the objects intended to be hidden.

The path ends at the high turnpike-road which led me through the pleasant village of Worsley. Turning to the right, the hall appears on the left hand; and a handsome church with a lofty spire on the right. This beautiful edifice is placed opposite the principal entrance gates. As my object was to find the gardener first, I inquired the proper way to his house. The gatekeeper very courteously informed me, that the best way to find him, would be to continue on the highway, and pass the mansion a short distance, when I should find a gravelled lane that would lead me straight to the desired spot. I thanked him, and remarked to myself, that it would be a good thing if every lodge-keeper was equally civil and obliging. Too many of them think themselves above being civil to a foot passenger.

The highway is well paved, and is sunk about five feet below the level, and walled on each side: hence the passengers are not seen from the mansion. Just within the wall there has been planted, some years back

a row of Hollies; but they have not thriven. I should say—nay, am certain, that due preparation has not been made for them; they have been planted upon the rock, or nearly so. They ought immediately to have a good dressing of rich dung; and that ought to be repeated every year, and allowed to remain both summer and winter. The hedge would grow well then. After passing the house, I met with a plantation, that has been thinned just to my mind.

The gravelled lane then appeared in view; and I made my way down it, and soon met with the gardener's house, which by-the-by, is a very comfortable one: I wish every gardener was as well lodged. His name, I found, was Mr. Davis; and he is, I believe, one of a family that have been long famous as good growers of the Pine, and the Grape. On taking a general view of the gardens, I found the very common mistake had been made of placing them in a low situation, on a clayey subsoil. I suppose the reason for placing the gardens in a low situation, was to secure warmth and shelter—a very mistaken notion, now happily exploded. A kitchen and fruit garden, with its pineries, vineries, and peach houses, should always be elevated to a certain extent above the surrounding country or plat. By so placing it, the advantages of securing a perfect subsoil drainage; and, above all, escaping the ill effects of early and late frosts, are obtained; the early frosts often destroy the blossoms, and the latter prevents the fruit-bearing wood from maturation. Such have been the effects at Worsley. The Peach trees on the walls had suffered dreadfully; and the Pear trees scarcely ever produced any fruit worth eating; the Apples are very much cankered: as for Plums, and Cherries, they scarcely exist. Mr. Davis is doing his best to counteract these evils, by concreting the borders, and making them much shallower. Although he has not had the management quite three years, yet in that short time, the good effects of better drainage, concreting, and root-pruning are quite apparent, more especially in the case of the Peach trees.

As I know there are, in various parts of the kingdom, many gardens so unhappily placed, and the owners do not choose to go to the expense of changing the site, I think I shall do some service to gardeners holding the head place in such situations, if I enter into detail a little more fully, of the method Mr. Davis has followed to obtain such improvement; and, as the Peach border first attracted my attention, and has been first experimented on, I will try to describe what has been done to it.

The first thing, was—all the old soil down to the clay was wheeled away on to the quarters, for which it was an excellent dressing. Then a layer of concrete was formed as hard and compact as possible. The trees in the meantime were hung up by the head, as it were, to the wall; the roots being protected with wet mats. Of course, everything had been prepared to get the work done as speedily as possible. After the concreting was finished, a few rows of drain-pipes were laid across the border, *upon the concrete*, to carry off any superfluous water that might rest upon it in a heavy rainy season. These rows of draining tiles are, as near as I could judge, ten feet apart. The next thing was the replacing of the soil. This was the top spit from a pasture, and was laid on in its green state. As soon as the soil was high enough, the roots were regularly spread over the border, and then covered a few inches deep. No dung, or other stimulating manure, was used. The trees all grew again, though most of them were upwards of twelve years old. The following season they made some good fruitful wood, which ripened well; and this summer, the trees, *for the first time*, bore a considerable quantity of really good, well-ripened fruit. It is true, this summer has been above the average of heat; and that, no doubt, had its due effect: but the good result of a dry border, made of simple maiden earth, had a good deal to do with the success. In addition to obtaining good fruit, the trees have made a goodly quantity of very perfectly-ripened wood, well furnished with plump blossom-buds. I never saw better; and if we have another warm summer, no doubt the fruit would be still finer. But ah! these "if's"—how are we to get over them, and make certain? The only way with Peaches and Nectarines in our uncertain climate, and more especially in this part of the country, is to cover them with glass. And it is no small testimony to the ability of his gardener, that the noble earl has consented to do this in his case, namely, to cover the wall with glass in the Trentham style. I saw the foundations for the front supports thrown out, and the mason at work with the fire-place, and setting the boiler; and I was informed the carpenters were at work making the sashes; so that, before the blossom breaks forth, they will be secured from the early and the late frost: and a certain crop of fruit will be had without an "if" or a "but" intervening.

This Peach wall faces, of course, the south, and reaches exactly half-way across the garden. The other half is occupied with Flemish and French Pears. These trees have wood indeed. The great object seems to have been to hide every brick, and prevent the sun shining on them. The branches are not only trained horizontally, but vertically; that is, across, and up, and down. As I mentioned above, the fruit they have produced, is bad, cracked, and worthless. Hoping to renovate them, Mr. Davis has treated them this autumn, exactly the same as he did the Peaches: he is gradually thinning the wood, and hopes thereby to improve the fruit. The trees are certainly large, and well furnished from top to bottom with wood; but what is the use of it, if there is no good fruit?

These gardens are very extensive—they cover sixteen acres. The south division is an orchard, and the ground has been cultivated and cropped with rough vegetables. Then, a low wall, and another large plat of ground, bordered on the north side by the Peach and Pear wall above-mentioned. A wide-arched door is in the centre; and in passing through it, the visitor observes at once the glass-houses on the north side of another square. Behind these again, are the Pine-pits, plant-pits, and propagating-houses; the whole sheltered from the north-east and west by a rather extensive, ancient wood, which completely screens the walls of the garden from being seen from the windows of the hall, or from the terraces in front. This very brief description will give the reader some idea of the extent of the gardens.

I now return to notice further improvements effected since Mr. Davis took the chief command. The Vines were in a bad condition, owing to deep undrained borders, and over-crowded wood inside. The soil on the outside was all removed; not a living root was found beyond the front wall. Fortunately, the Vines had been planted inside; therefore, the removal of the outside border did not affect their growth. As they had been pruned on the bundle-of-rods system, they were all cut away to one; that best furnished with spurs was selected. The border outside was properly drained. It is about fifteen feet wide; but only five feet of that were soiled the first year. The remainder is to be filled in, when the roots have reached the outside of that now made. One house is just now started: and to protect the roots from frost and wet, the new border I found covered with short litter; and upon that straw hurdles were laid. Then, in front, the men were wheeling in leaves to the depth of the soil; so that there would be a gentle, sweet, stimulating heat

given to the roots—a point of great importance in early forcing: for it is absurd and unnatural to have the branches in a temperature of 50° or 60°, and the roots nearly at freezing point. Every gardener that cultivates the Vine, should avoid this fatal error. The consequences of these improvements are already apparent. The bearing wood is stronger, and very fairly ripened; and in another season will be still more improved. The same judicious attention in the Peach houses has been effected; and this last summer they produced very decent fruit.

The mode of heating these houses, is by hot-water pipes; but they had been placed in deep troughs, and did their work very indifferently. Now, they are placed just above the level of the inside borders. They heat the internal air better, and save as much as three-fourths of the coal formerly used. This raising of the pipes has been carried out in the pineries also, with the same results. It may be then laid down as a rule, *never to place the pipes low in any forcing, or even plant-house.*

The plant-pits are filled with bedding-out plants to a great extent. Some idea may be formed of the quantity, when I repeat what was told me, namely, that last season, to furnish the beds in the various gardens, required no less than sixty thousand plants—an enormous number, quite enough to set up a nurseryman. At 3*s*. per dozen, they would bring him in no less than seven hundred and fifty pounds!

T. APPLEBY.

(*To be continued.*)

CULTIVATION OF EARLY POTATOES.

PRIZE ESSAY.

By the Rev. E. F. MANBY.

So much has been said upon the cultivation of the Potato, so many causes assigned to the disease with which of late years it has been more or less affected, and so many remedies prescribed, that we feel some apology is due to our readers in bringing the subject again before them.

We should not, however, venture to intrude upon their attention, had we not reason to suppose that we could lay before them some information which might prove to be not entirely void of interest.

Thus far we can promise—to describe a system of cultivation which the experience of many years has proved to be attended with great success and profit; and which, we believe to be at present practised only by a few growers, and confined to a limited district.

Poulton or *Morecombe* Potatoes have now become so celebrated for their excellence, that we purpose giving an account of the mode of cultivation there pursued.

Poulton, or, as it is now called by the more dignified name of *Morecombe*, forms part of a township in the parish of Lancaster, adjacent to the shore of Morecombe Bay. The soil, at least that most favourable to the growth of the Potato, is a sandy loam upon a subsoil of gravel. There are other soils likewise on which they are cultivated—moss upon clay, and calcareous loams—but these latter are not considered equal to the first mentioned; nevertheless, they are useful for raising seed—a change of soil being most beneficial.

It will scarcely be credited, that on the same land, for a period of twenty or more years in succession, crops of Potatoes have been taken. Indeed, previous to the disease, it was customary to obtain two crops of Potatoes the same year from the same ground; the first of which, was taken up in June, and the second in September. But, since then, it has been the usual practice to transplant Swedes or Mangold Wurtzel, and of late, even to sow the former; though many growers will sow *Dale's Hybrids*, *Yellow Bullocks*, and other kinds of quick-growing Turnips. The produce of these second crops, will average about fifteen tons to the acre. In fact, we have observed but little difference between a second crop of Turnips here, and first crops elsewhere.

But it may be objected that this is not farming, but gardening:—we beg to reply that it is cultivating the soil; and, that as long as a profitable, paying, produce can be obtained from the land by cultivation, it matters not what name you give it.

Again, it may be said that, after all, such a system can never be carried out on a large scale. We answer: on a much larger scale than may be at first supposed. Why should it not be applicable, to a portion at least, of land now set apart for the production of winter Potatoes? We can see no reason why it should not. In the case of winter Potatoes, the land might be sown with Rape instead of Turnips. But what we now have to do with, is the cultivation of early Potatoes. Within the last three years, the growth of early Potatoes has been almost trebled.

But surely, it may be said, the land in this district must be most favourable for the produce of the Potato—in other districts it would be impossible.

We do not say that every district could do the same; but we believe that *many* districts similarly situated, and possessing similar soil, might. "Oh," says A., "you have sea-sand, and sea-weed, and muscles, and that sort of thing—all of which are essentially requisite for early production; and, as it would never pay to convey these commodities inland for the purpose of carrying out such a course, it would never pay."

A few years ago, this objection might have had some force; but since the importation of guano, and the manufacture of many valuable artificial manures, brought to light through chemical science, it is futile; for experience has proved that these artificial manures are equally beneficial with the muscles, &c., and, indeed, are now extensively employed.

There are, however, two advantages in favour of this locality which are not general—first, the low level above the sea; and, secondly, the sandy gravelly soil.

The great drawback to the cultivation of the early Potato, is the injury inflicted by the severity of spring frosts. But these are less severe by the sea-coast than inland. Even at a distance of four miles it has been observed, that the frost has been very sharp, whilst by the sea-coast there has been little or none. Consequently, the plants have been much injured inland, whilst they have escaped with little or no injury along the sea-shore. So, again, there is the local advantage of a suitable soil; for here it may be remarked, that Potatoes growing upon *hard* land, or a sandy loam, for instance, will escape the frost, whilst the next field, moss or clay, will be cut down.

It would then appear that there is great uncertainty with regard to the value of the produce; and so there is: but the uncertainty is, whether you realise £50 or £70 per acre. Those Potatoes are only planted which are known to recover quickly from the effects of the frost. Indeed, we can scarcely remember a year in which the Potatoes have not been cut down once or twice, when one or two inches out of the ground. After such a catastrophe there is a general lamentation, "Fair frozzen clean to t' ground; waint be worrth a farding." But the knowing ones take it very quietly; for they know that the frost will have been more severe inland, and that others must have suffered more; so that in the end they will be rather gainers than losers.

It is, however, strange how little known the kinds of Potato are, which are here so profitably cultivated. In other districts, we have found the *Ash-leaved Kidney* in high favour. They have been tried here, and are found by no means equal to the *Lemon Kidney*, which is equal in production to the *Ash-leaf*, earlier in forwardness, and far superior in flavour and quality. There is always a great difficulty in obtaining good seed. Genuine seed commands a high price, and not without reason; for the growers take the greatest pains in cultivating the seed for their next year's crop. For example, they set not the small refuse which is generally done, but select equal, well-shaped tubers as smooth as pebbles; and as soon as any one shows a *flower*, it is immediately eradicated. A flower to an early Potato is considered a sign of deterioration, the first symptom of growing out; it being contended that all the strength of the plant should be thrown into perfecting the tuber, and not be spent in the opposite extreme. However this may be, it is certain that a plant when it has once shown a tendency to flower, is not so early in perfecting its tubers, and that the seed set from such a plant will shortly produce tubers irregular in shape, and deformed by little knobs and ex-

crescences. The more forward, the earlier, the sooner it is ready to be taken up for use, the higher price it will command; and the more perfect and equal in shape, the more valuable, because there is less waste in preparing it for table. And here we must beg to correct a mis-statement. It has been frequently remarked, that Potatoes are not good to eat until winter ones come in; and generally speaking, there is a good deal of truth in the remark. In many counties we could name, what is there called a new Potato, is one of the worst and most unwholesome of vegetables. "How can you like new Potatoes?" we have been asked, with a look of surprise expressive of commiseration; "they are such heavy, waxy, indigestible things;" and so *they* are.

It may seem a vain boast, and we may be laying ourselves open to the charge of prejudice; but this we can truly say, that we never ate a new Potato equal to, or to be compared in excellence to those cultivated in this district, and its vicinity. There is almost as great a difference between other new Potatoes, and the *Morecombe* ones, as between chalk and cheese. Light and digestible, they form a dish fit for an epicure; not heavy, *livery* balls, which you see continually sent up to table in the summer season, but light and flowery, the delicate skin cracked and bursting. Such has been the demand for this favourite esculent, that the markets of Leeds, Bradford, and many other large towns in Yorkshire, have been supplied from this district. Before the opening of the North-Western Railway, and its connexion with the Midland, new Potatoes were sent to Covent Garden market from hence, where they met in competition produce sent from Cornwall. But latterly, markets have been opened nearer home; and large quantities are daily forwarded during the season to Derby, Sheffield, Birmingham, Leicester, and Cheltenham. Hundreds of tons are thus weekly despatched, and the demand continues to increase.

The rent of land is, as may be supposed, proportionably high. Some is let at the rate of £16 per statute acre. We have in our mind's eye a field, broken up last winter, now let at 3*s.* 5*d.* per rod of forty-nine yards.

A good crop will yield ten score pounds per rod, which, at 1*s.* 6*d.* per score, would amount to 15*s.* per rod, or about £70 per acre in round numbers.

The difference of expense in cultivating early Potatoes, and late or winter ones is not great. Some adopt the plough, and plough the sets in every other furrow; whilst others employ spade husbandry. It is astonishing how quickly a labourer, attended by a boy to put in the sets, will complete an acre with the spade. Of course the land is previously prepared.

Earlier in the season—in the middle of June—prices are considerably higher than that above mentioned. From 2*s.* 6*d.* to 3*s.* per score the price will extend; but then the produce is less in quantity, though we have known instances of six and seven scores obtained per rod at those prices.

After the *Lemon Kidney*, which will supply the consumer from June to August, comes an excellent *second early*—the *Red Eye*—which continues good from August to the following May. Last year a crop of these Potatoes was lifted before the end of August, kept perfectly sound and free from disease, and the last of them was eaten in the middle of May.

The mode of obtaining Potatoes, matured for lifting so early as August, is very simple. You merely have to set them well sprouted. There is no occasion to put them in early; the last week in April, or first week in May, will do; and they will be ready by the end of August, when the land may either be sown with Rape, or with Grass-seeds for meadow or pasture. If sown with the former, it may be eaten off by sheep, and ploughed again for Potatoes the following spring, and so on.

There appears to be, in this neighbourhood at least, a stage at which the Potato is more liable to take the disease than at other period of its growth. The month of August is the critical time for the winter Potato. But by sprouting the tuber before setting, you obtain nearly a month's advantage; so that, when the disease does come, the plant is in a stronger state than it would otherwise be, and is thereby enabled to repel the attack.

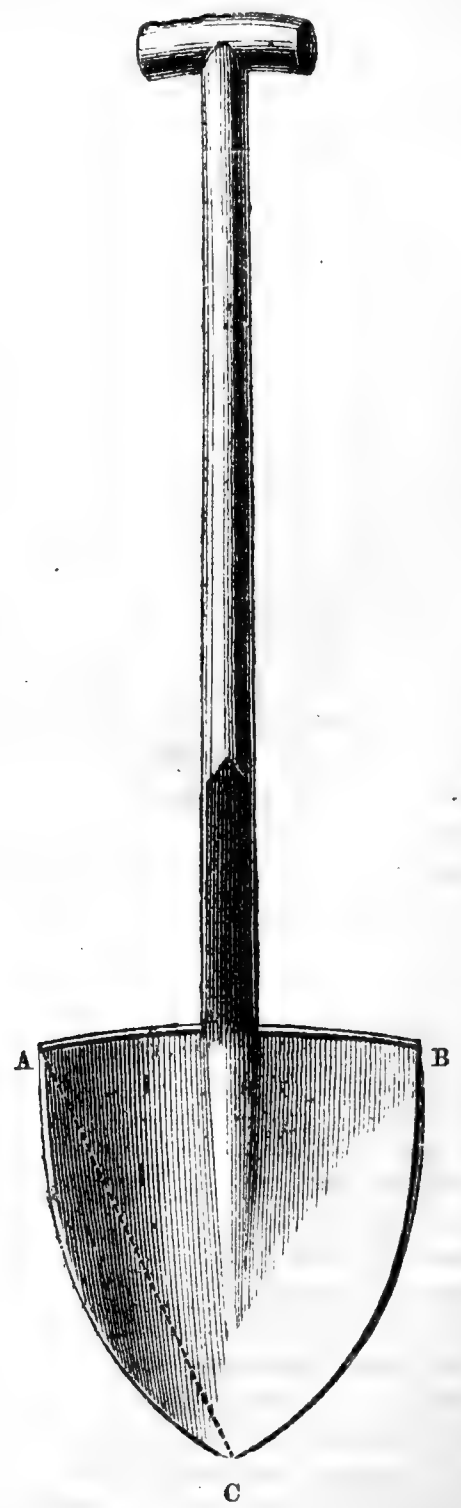
This we know for a fact, that the same variety of seed, set at the same time, in the same field, and not taken up till October, was much diseased; whilst those taken up in August kept perfectly sound.

The third variety of Potato which has proved most free from unsoundness is the *Fluke*. This is a late winter Potato, and the least liable to disease of any of the winter varieties with which we are acquainted. The *Fluke* is very productive, and grows to a large size. In many soils they retain a sweet, Yam-like flavour until Easter, when it will disappear, and become a first-rate vegetable until new ones come in.

But in order to give our readers more accurate information, it will be necessary to enter further into detail, and describe the mode of cultivation here practised, from the preparation of the land for the seed, to storing; including the method of sprouting, upon which the profit of the *Lemon Kidney*, in a great measure, depends; and, we think, would also prove advantageous if applied to the growth of *late* Potatoes.

And, first, we shall commence with the preparation of the ground, keeping in mind the nature of the soils before-mentioned. Let us, then, take a small field—an acre or two of arable land; for we would by no means recommend a beginner to commence with a larger plot. For be it remembered, that the cultivation of the *early* Potato, though similar in many ways to that of the late, yet differs in many respects. A farmer, who has been accustomed to cultivate his thirty or forty acres of Potatoes, may ridicule the idea of making so much of so small a matter, and remind us of a "certain mouse and a certain mountain," which have *not* escaped our recollection. He may treat it as a joke: but we should be acting unkindly, at least, if we did not, in recommending the adoption of our system to more general practice, add a word of caution

Shaft, 2 feet 2¼ inches, and a little arched.



A to B, 12½ inches. A to C, 13½ inches.
Shape, concave.

to the recommendation. We should be sorry to be the means of involving any novice in what might prove to him an unprofitable investment. What, then, we have said, we must beg to repeat. Make only a small beginning, and increase

year by year as you find you are enabled to work to profit. You must remember that the period of cultivating the *early* Potato is very limited, and is by no means as extensive as that of the *late* varieties. Indeed, from *eight* to *ten* weeks is the usual time from the period of setting to lifting.

But, to return to the preparation of the soil. Select a dry sandy loam; and, supposing it to be a corn-stubble, you should cart your manure on to the land in February. If the field be pasture or meadow-land, it would be better to take a crop of Oats from it the first year; or the field must be trenched, and the sod turned down on its face to the bottom of the trench.

Short, well-decomposed horse and cow manure should be spread on the land to the amount of thirty tons per acre. *Long* manure will not answer; for it does not work as soon, and, moreover, drags and impedes both plough and spade. The manure, when spread, must be ploughed down when the land is *dry*. If the land is not dry, you must wait till it is: in this case, let the manure remain in the heaps in which it has been set out from the cart until the land is in a proper state. It is the general practice to spread the manure just *before* the plough—and a very good practice it is—to prevent waste and loss of ammonia, &c. You had better do nothing than attempt to prepare the land in a wet state, you would only be defeating your own object. It is a matter of greater importance than is generally considered, not to meddle with it until it is dry.

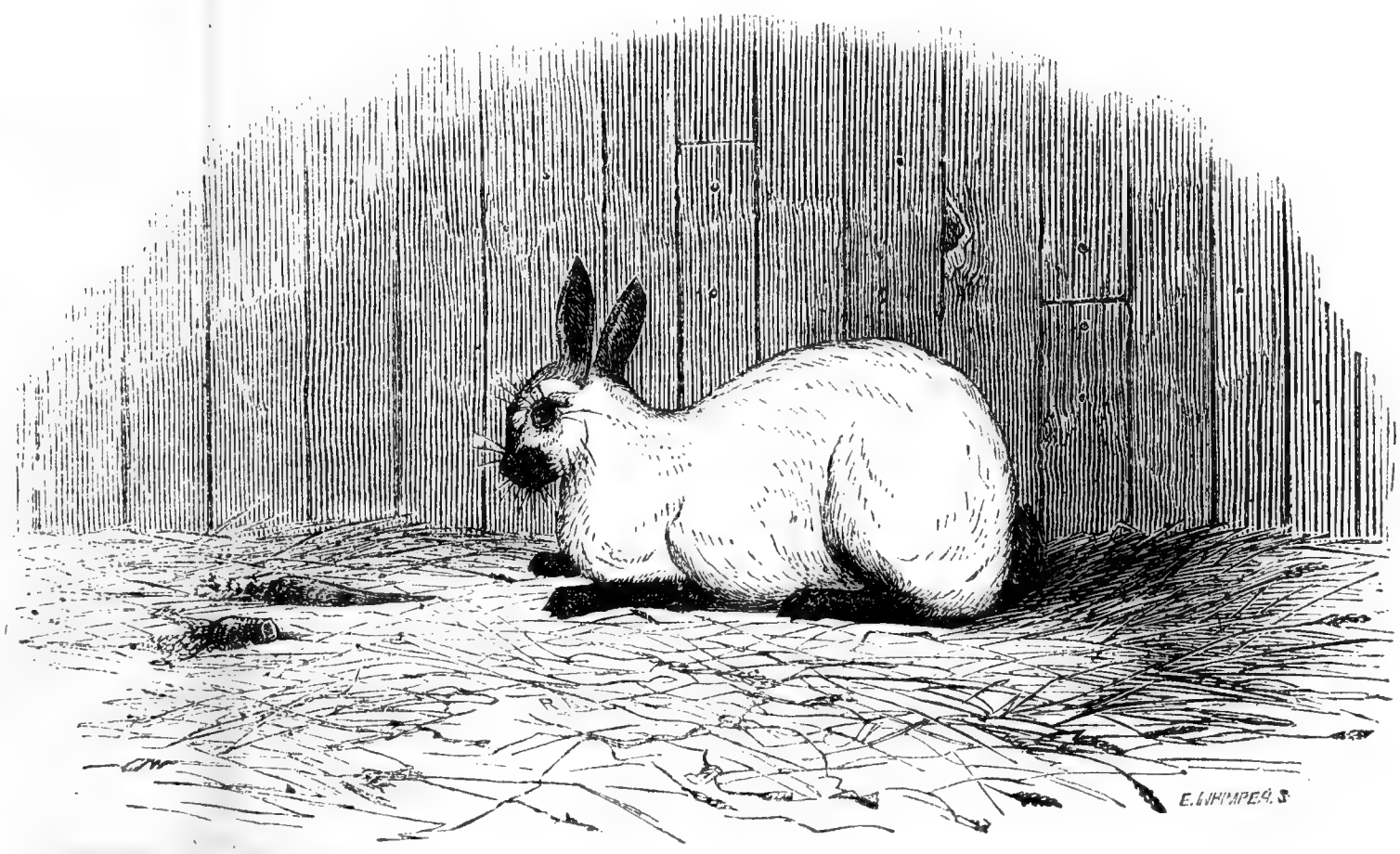
If you first plough the land in a wet state, it will take much longer time to dry, and to get it into proper condition, than if it had been left alone. The state of perfection which you should endeavour to attain is to make the land as dry and as *free* as oatmeal. After the manure is ploughed down, say in February, the land remains in that state till the end of March, or the beginning of April—the second week in April being considered the best period; for if you set sooner, your crop is liable to suffer from the early-spring frosts; and if you set later, your crop will come in too late for the early market.

You recommence operations, then, by harrowing the land that was left in furrows, then plough it again—always selecting a dry time—and harrow; and should it not then be reduced to a fine state of tilth, you must plough it again; but do not harrow the last time previous to setting, as it is requisite the land should be left in as light condition as possible.

Supposing, then, it is your intention to adopt spade husbandry (which we believe to be preferable), when the land is thus prepared, the labourer must be provided with a suitable implement in the way of a spade—we do not mean a common square garden-spade: but one, to save further description, of this shape and size (*see cut*). A narrower implement would not answer the purpose; for the object is to stir the whole of the ground. And if two or more labourers are employed, care must be taken that all be provided with spades of *equal* width; for should one spade be wider than another, it will follow that there will be a greater width between some rows than others—a consequence which, at the time of moulding up, would be attended with inconvenience.

(*To be continued.*)

THE "CHINA" RABBIT.



THIS very pretty and curious variety, for such I conceive it to be, of the fancy Rabbit, is generally supposed to have been brought from China, or the Himalayan Mountains; hence we sometimes hear it spoken of as the "Himalayan" Rabbit. By some fanciers it is considered to be of African descent, and by others merely the result of a cross; but, for my part, I believe it to be a distinct variety. I have known those who have bred many generations of them; and, as they have invariably produced young resembling themselves in every point, I take this very convincing proof as the ground of my belief. A gentleman, writing in THE COTTAGE GARDENER, of June 2nd, 1857, says that he bred some from "Silver Sprigs." I do not deny for one moment the possibility of such a fact; but this I do think, that if the breed we recognise as "Himalayas" were thus produced, we should frequently be having foul or irregularly-marked young ones in our litters. The pure strain should always be white in colour, with dark extremities and smut; and a dingy fawn seems to be more frequently met with as the colour of the extremities than any other. The ears are carried erect, as in the common Rabbit, with which this variety also corresponds in size, general conformation, and habit. I have never seen a specimen of the pure breed that did not answer to this description, and I have seen many, although I have never bred them myself.—PERCY BOULTON.

DR. JOHN FORBES ROYLE.

SCIENCE has sustained a loss in the death of Dr. Royle, which took place at his residence, Heathfield Lodge, Acton, Middlesex, on Saturday, the 2nd inst. He had been for many years in ill-health; but his death was sudden at last. Dr. Royle was educated in London for the medical profession; and was a pupil of the late Dr. Anthony Todd Thomson, from whom he seems to have acquired that taste for the

study of botany which afterwards distinguished him. Having passed his medical examinations, he entered into the service of the East India Company, being appointed Assistant Surgeon in 1820, and serving with various regiments until the beginning of 1823; being, during the time, stationed in the Himalaya, where he had great opportunities afforded him of studying, not only the plants of that district, but of the whole empire. In 1823, he was appointed Superintendent of the East India Company's Botanic Garden at Saharunpore,—a position which gave him the largest possible opportunity for studying the indigenous flora of Hindostan, and which position he retained until the close of 1831. In the spring of 1832 he returned to England. The result of his labours was given to the world in a magnificent work, entitled "Illustrations of the Botany and other branches of Natural History of the Himalayan Mountains, and of the Flora of Cashmere." This work was published, in folio, with plates, in 1833, and at once gave to the author an European reputation as a botanist. In this work Dr. Royle gave the result of his researches into the medical properties of a large number of plants, as well as the history of drugs used in Europe, whose origin was unknown. In 1837 he published an essay "On the Antiquities of Hindoo Medicine,"—a work displaying much learning and research. On the opening of King's College, London, as a medical school, the knowledge of drugs and plants possessed by Dr. Royle pointed him out as a fit person to hold the chair of Materia Medica, a position which he filled till the year 1856. Whilst lecturing on this subject, he published his "Manual of Materia Medica," a book which is now used as a text-book on the subject in medical schools. His extensive knowledge of the natural history of India made him a valuable contributor to the periodical scientific literature; and he was a contributor to "The Penny Cyclopædia," and Kitto's "Dictionary of the Bible," and other works. He took an active interest in promoting a knowledge of the material resources of India; and in 1840 produced a work which, perhaps, will be read with more interest now than when it was published, "On the Productive Resources of India." During the period of the Russian war, Dr. Royle drew attention to India as a source of the various fibrous materials used in the manufacture of cordage, clothing, paper, &c., by a lecture delivered before the Society of Arts in 1854. This lecture was afterwards expanded into a valuable work "On the Fibrous Plants of India," which was published in 1855. In the preface to this work he announced that he was employed in a general work on "The Commercial Products of India," which, we believe, has not yet appeared. Dr. Royle was a Member of the British Association for the Advancement of Science, at whose meetings he often read papers, two of which deserve especial mention—one "On the Cultivation of Cotton," and another "On the Cultivation of Tea in the East Indies." He took an active interest in the last subject; and his efforts have been attended with complete success, as tea, rivalling that from China, is now produced in abundance in the Himalaya. For a short time he held the office of Secretary to the British Association for the Advancement of Science. He took an active interest in the development of the plan of the Great Exhibition of 1851; and the success which attended the exhibition of the Department of Indian Products was due, in a great measure, to his efforts. He was a Fellow of the Royal Linnæan and Geological Societies; and at the time of his death held an appointment in connection with the East India Company in London.—(*Athenæum.*)

RESULT OF PLACING THE SWARM IN THE SITUATION OF THE OLD STOCK.

Your correspondent, W. B. Tegetmeier, referred, at page 414 of the eighteenth volume of The Cottage Gardener, to my advocacy in your pages, some years ago, of a new mode of treating swarms by placing them in the situation of the old stock. During my absence in Tasmania I have had such repeated assurance of the advantage of this plan, that I am more than ever disposed to recommend it for general adoption. I do not pretend to say that it never will fail: but I believe, that the advantage of its success, in the majority of instances, will be found (as I have found it), to more than counterbalance the loss by occasional failure. Have any of your other numerous correspondents given the system a fair trial? and would they, or Mr. Tegetmeier, favour us with their experience on the subject? I purpose doing so myself, as I have leisure, with your permission. Indeed, I have a small tract in MS. on the subject of cottage bee-keeping, which contains the result of my seventeen years' experience. If you will allow it to appear in your pages, I shall be happy to place the MS. at your service. Nor shall I grumble if it be severely handled by your apiarian savans, as my only object is to serve the interests of apiarian science. It may ultimately be reprinted from the pages of The Cottage Gardener, for cottage distribution, *i.e.*, after it has been ten times corrected by public opinion, and revised accordingly.

What is to be done regarding the proposed British Apiarian Society? As you have done me the honour to quote at length the preface to my "English Beekeeper,"* at p. 15 of the last volume of The Cottage Gardener, by way of recommending the contemplated Society to the support of apiarians, I cannot but feel personally interested in the matter.—B. & W., late "A Country Curate."

[Right heartily do we welcome your return to "Old England." We have a list of those willing to support an Apiarian Society.—Ed. C. G.]

MILDNESS OF THE WINTER—NATIVE FLOWERS.

As an example of the mildness of the season, I send you a list of the plants flowering in my garden, in the open borders, December 31, 1857:—

Potentillas,	Veronica Hendersonii,
Sweet Scabious,	Pyrethrum—double,
Coreopsis lanceolata,	Primroses,
Rose Souvenir de Malmaison,	Violets,
" Chinas,	Fuchsia,
" Phœnix,	Antirrhinums,
" Géant des Battailles,	Pentstemons,
" Gloire de Rosamene,	Linaria—annuals,
" Baron Prévost,	Polyanthuses,
Stenactis speciosa,	Anemones,
Tradescantia—double,	Vittadenia lobata,
Yellow & White Everlastings,	Jasminum nudiflorum,
Coronilla glauca,	Common Marigolds.

Your correspondent "W. E.," who writes at page 168, in The Cottage Gardener, has set his foot in a right direction; and a few more contributions on our native British plants are very desirable. I grow the double *Ranunculus ficaria;* also the single white ditto, *Cardamine pratense pleno, Caltha palustris pleno, Geranium pratense pleno, Lychnis dioica alba pleno, Lychnis flos cuculi pleno, Silene maritima pleno,* double wood Anemone, as well as the single of these, and some others—all interesting in a garden devoted to hardy herbaceous plants; and we, cottage gardeners, want yet more information on this subject.—S. P., *Rushmere, near Ipswich.*

QUERIES AND ANSWERS.

LINING FOR HOT-WATER TANK.

"Will you kindly inform me, whether you ever use zinc lining for hot-water tanks; or, if you think it would answer?

"When I put up my greenhouse, and forcing house, about two or three years since, following your kind suggestions at the time, I made a brick tank, and lined it with Portland cement. This leaks, when the water is hot; and nothing I have done, benefits it. I, therefore, propose to line it with zinc, or lead; but thought I would ask your advice which of the two you would prefer; as I do not know which would bear the expansion and the contraction best. I suppose, if lead be used, three or four pounds to the foot would be quite heavy enough, as it would rest on the cement and brick. Zinc would, I suppose, be cheapest."—G. W.

[We have not the slightest recollection of the suggestions to which you allude. It is very needful to give the page,

* Rivingtons, London. Now published at a cheaper rate.

and volume in such cases, as we hardly think we could have recommended a tank for hot water, with a mere *lining* of Portland cement. We have had very little experience with Portland cement for such a purpose. We have seen a great deal of Roman cement so used, both for cold-water, and hot-water tanks; and with no complaints of leakage, when well done. Portland cement may be worked more carelessly than the Roman cement. The first, is light stone colour; the second, is dark brown in its appearance. Much of the soundness of the work depends on the bricklayer. The bricks should be thoroughly soaked; and the course forming the inside of the tank, must be laid in the cement; and no more cement should be wetted than can be used at once. If very good, it may have nearly a half of clean washed dry sand mixed with it, before mixing up with water; but, if not strong, it must have but little added. It sets quickly, and is of no use, if you have to touch it afterwards. Suppose the bottom and the sides of the tank to be so formed, the bricks must be damped again as you proceed, and a layer of the cement, nearly half an inch thick, placed all over, and made smooth as you proceed. In a day or two, water may be admitted; and if the foundation is all right, there will hardly be a crack or leakage. It will stand water very hot; but it will not stand fire-heat: and therefore, pipes, a couple of yards in length at least, should go from the boiler to the tank, so that the direct fire-heat from the furnace should not act on the cement. As a proof that it will stand a high temperature from mere water and steam, a friend of ours had a brewing copper, which he did not find large enough; and, therefore, had round the top of the copper, some seven or eight courses of bricks in height, placed in cement, and they held boiling water just the same as the copper. I fear your bricks have not been bedded, but merely lined with cement; and we should like information, whether the Portland is equally good with the Roman. It would be worth while inquiring whether a fresh lining would not make all right. If you had to pull the walls down, and do all afresh, perhaps a zinc lining, if the tank were not large, would be as cheap. Lead, of course, would be more lasting. Neither must come too near the furnace. We have had small zinc tanks in use for some half-dozen years, and they are showing no signs of decay as yet, except rusting a little inside. We would, however, as mentioned above, see, in the first place, if the brick tank could not be made all right; and, perhaps some little thing referred to, has been overlooked. Galvanized iron would be cheaper than either zinc or lead, and more durable.]

APRICOT FAILURES—CUPRESSUS MACROCARPA AND FUNEBRIS.

"Against one end of my house, having a south-west-by-south aspect, are two Apricot trees—a *Breda* and an *Orange*. Ever since I have been here (four years), nine-tenths of the fruit has fallen off, or decayed on the trees, just as they ripen. They begin to fall when about three-parts grown. Can you suggest a remedy? The trees are about twenty-three years old; but they make plenty of wood, and entirely cover the space allotted to them—thirty feet by nineteen feet. There are two chimnies in the wall, with fires constantly in them; and the roof projects full eighteen inches. The pruning, owing to ill-health, has been neglected during the last two seasons; so that they are now full of breast-wood.

"In the autumn of 1855, I planted a *Cedrus macrocarpa*, then three feet high; it is now just seven feet high. Is this usual? A *C. funebris*, planted at the same time, and same height, is only forty-seven inches high; but it has suffered from frost."—ABEL NOTT.

[The Apricot trees are too dry at the roots in summer, or else too wet all the year round. All the feeding roots are beyond six or eight feet from the stems; and any renewal or improvement of the soil would need to be done beyond that point. The main branches may have increased in diameter so as to touch the wall, or be too near it just behind the chimnies, and that of itself might cause the fruit to fall off; although it is more probable the fault is at the roots. In the absence of all the points from which we could form a judgment—even not knowing what part of the world these Apricots are in—we would merely say, if they are in a good climate, and four times more fruit sets than the energy of the roots can maintain, what may be the matter with the roots we have no means of judging.

There is no such Cedar as *macrocarpa;* therefore, we cannot say whether the growth is usual or not. But if your plant is *Cupressus macrocarpa*, and has made only four feet in three growths, it is nothing extraordinary; we have known it do nearly as much in one year at that age. The *Cupressus funebris* requires some shelter in winter, in the climate of London, according to the experience of Mr. Cutbush, of Highgate Nurseries; the most favourable to hardiness of growth in the neighbourhood of London. It grows fast and majestic in the inside borders in the Crystal Palace. You say your plant had "suffered from frost;" but from not knowing how near to the north or south pole this happened, the information is of no practical value.]

PROPAGATING ROSES ON THEIR OWN ROOTS.

"You will oblige me, by telling me the best way to propagate Roses on their own roots. I ordered three dozen, and am surprised to be forced to have them standards, as I could not get one tenth of them on their own roots."—A SEVEN YEARS' SUBSCRIBER.

[The "best way" to propagate Roses on their own roots, is most certainly to make layers of the last year's shoots, in March or April, or earlier, if the soil and season are favourable. The mode is, to tongue the layers—the tongue to be *on the upper side of the shoot;* and by giving the shoot a gentle turn, just at the tongue, the tongue will hang on one side. Then, if there be a little sand and leaf mould put round the tongue, it will surely root and make a nice plant by the next winter. But, how could you have been reading THE COTTAGE GARDENER, for seven years, without learning every move in Rose culture, and propagation? Just look at the index of any of these volumes, for "Roses," and you will find that you may learn how to grow "Roses on their own roots," ten times. How can you be "forced" to take standard Roses for dwarf ones, unless they took you for a man, who reads without learning any thing worth remembering?]

POTTING GLADIOLUSES.

"W. M. Wardrop wishes to know, what time in February is best for potting Gladioluses?"

[The beginning of February is the best time; but the time to begin *watering* a bulb is of far more consequence, than the week or month in which to pot it. Hyacinths may be potted from the first week in August, to the last in October, with equal advantage, according to the after-management; and so with Tulips, Crocuses, Narcissuses, and Gladioluses of the *Cardinalis* and *Blandus* strains; and those newer crosses from the break of *Gladiolus natalensis*, may be potted any day from November to April, with equal success, if the after-management be right, and judicious. But, as the most of them begin to make roots, naturally about February, whether in or out of pots, we say, "February is the best time to pot them;" but the week or day in February does not matter the value of a straw. Let the roots appear through the ball, and the leaves be in sight, before any bulb receives more water than the natural moisture of the soil, from September to May. Hyacinths, Narcissuses, and Gladioluses, should have very little water till their leaves are two inches long, particularly the Narcissuses, and Gladioluses; if that rule be strictly adhered to, the time for potting may vary months for convenience' sake.]

GRASSES FOR SAND ON THE SEA-SHORE.

"What grasses will be most likely to grow on a sand-bank, formed by the action of the tides, of very fine pure sea-sand of great depth; at present above the reach of the tide? The common bent grass grows very freely on it; but I wish to cultivate a more profitable description of grass there, if possible."—J. E. V. V., *Dublin.*

[There is no chance of your ever being able to have pasture

on such a place, if it is as you say, "of very fine pure sea-sand." The only possible way of getting it covered, and laying the foundation of a soil, is to sow it with a mixture of *Ammophila arundinacea*, *Elymus arenarius*, and *Elymus geniculatus*. These are what are recommended in Messrs. Lawson's "Agrostographia:" but, if the sand is drifting, or shifting, even these will not remain in position unless they are mixed with clay, and dibbled into the sand at certain distances, or sown on pieces of turf, and transplanted on to the sands after having taken root. In course of time, these will establish themselves, and throw out rooting stems, which spread in all directions, and form a complete mat over the whole surface. By annually mowing these after they are established, and leaving the crop to rot on the surface, you may, in time, form a surface-soil, of decomposed vegetable matter.]

TO CORRESPONDENTS.

AQUARIUM (*Hester*).—Mr. Copland's little pamphlet, "The Aquarium and its Lessons," will just suit you. It is written in the same good spirit as Ralph Austin's "Orchard Spiritualized." You can have it sent to you post-free, if you send five penny postage stamps, to Mr. E. A. Copland, Bellefield, near Chelmsford.

TWELVE GOOD CHEAP HOLLYHOCKS (*A Subscriber*).—The following are twelve good varieties of Hollyhocks, fit for any exhibition; you will obtain them from any grower of note for as many shillings. When you order them, request them to be sent strong enough to flower this year. Should any of them be rather weak, pot such, and keep them under a frame for a time, to enable them to get into good growth.—*Aurantia superba* (Bircham), orange and scarlet, very distinct, fine, large, and full, and a bold flower. *Charles Baron* (Chater), pinkish salmon, fine. *Comet* (Chater), bright ruby red, fine. *Cream of the Valley* (Bircham), cream colour, fine form, and large. *Duchess of Sutherland* (Bircham), bright rose, silvery tinge, beautiful. *Emperor* (Roake), deep rose, large, bold flower, fine form, and spike. *Jenny Lind* (Bircham), French-white tinged with pink, chocolate base, very large and fine full flower, centre well up, fine spike. *Lizzie* (Paul), clear peach, very large, smooth, and finely formed, magnificent flower, extra fine. *Meteor* (Bircham), brilliant crimson, fine spike, and large flower. *Mrs. Dawson* (Bircham), satin white, with a lilac tinge, mottled. *Omar Pacha* (Bircham), pale straw, chocolate base, beautifully laced with purple, produces a splendid spike. *Yellow Model* (Bircham), primrose yellow, chocolate ground, splendid form, fine texture.

VINERY (*I. W.*).—There has been a great deal on Vines lately. We should like to know more particulars, and then we would try and advise you. What are the length and width of the place you can appropriate? and what form of a house would you like best—lean-to, hipped roof, or span-roofed? as all will equally answer the purpose. Meanwhile we reply: 1, Best British plate, from sixteen to twenty ounces per foot. 2, If roof to be fixed, and stout sash-bar rafters: then have the panes about sixteen inches wide, and twelve inches deep. 3, Length of rafter according to fancy and convenience, provided it slopes sufficiently to throw off the water easily, say from twelve to twenty feet, or more. 4, If lean-to and roof fixed, ventilate by the front and the back wall. You would see how a correspondent the other week used a double wall-plate for that purpose. If hipped roof, give air at the hip. If spanned-roof, make ventilator at the apex. If after looking over the last and present volumes, there is anything definite you wish information upon, we will do our best to oblige you, even to the minutiæ of all within our power, *except prices*, as we find the latter are only misleading.

GUANO FOR GOOSEBERRIES (*J. Reid*).—Guano would do very well for the Gooseberry. We should give it in a weak liquid state once a week if we were growing for prize Gooseberries.

ROSE LEAVES (*C. R. C.*).—The clustered lines of rings on the surface of your Rose leaves are caused by a minute Fungus. Dusting with flowers of sulphur will probably destroy them. The whole house should be similarly fumigated; for the spores are very volatile, and are diffused widely.

NAMES OF PLANTS (*Charlie*).—No. 1, the plant with the long catkins is *Garrya elliptica*. 2, a species of *Cistus*, but the specimen is too small to enable us to say which one it is. 3, *Ligustrum lucidum*. 4. *Elæagnus angustifolia*.

FRUIT OF STEPHANOTIS FLORIBUNDA (*C. B. S.*).—*Stephanotis floribunda* belongs to the family of Milkweeds (Asclepiaceæ), which we are told in Mr. Hogg's "Vegetable Kingdom," contain "a bitter, acrid, milky juice, with extractive substances, which act as emetics. Many are used as a substitute for ipecacuanha, a few are purgatives and anthelmintics, and some are possessed of stimulating properties." We do not know that any use has ever been made of the fruit of Stephanotis; but from the above quotation we should suspect what its properties are, particularly as the whole family is a pretty natural one.

DRAINAGE OF COWHOUSE (*K. M. P.*).—You may apply it to your wall trees as you have to your Gooseberry trees. But we do not see what advantage is to be expected. Washed into the soil by the rains, the drainage will tend to render the trees over-gross.

VINES IN POTS (*W. L. Lowestoft*).—In our No. 310 you will find an essay on the subject.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

JANUARY 20th, 21st and 22nd, 1858. NOTTINGHAM CENTRAL. *Sec.*, Mr. Etherington, jun., Notintone Place, Sneinton, near Nottingham.

JANUARY 20th, 21st, and 22nd. LIVERPOOL. *Secs.*, G. W. Moss and W. C. Worrall, Esqrs.

FEBRUARY 3rd and 4th, 1858. PRESTON and NORTH LANCASHIRE. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

FEBRUARY 10th and 11th. ULVERSTONE. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

FEBRUARY 25th, 26th, and 27th. HEREFORD. *Sec.*, Mr. Thomas Birch, Hereford.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

CRYSTAL PALACE POULTRY SHOW.

WHAT would Pepys have said in his "Diary" had he lived in the days of Poultry Shows? How quaintly he would have described the loud crowing of the cocks, the numbers of spectators, and the crowding round the prize pens, and then the prices given for successful birds. And such a close observer would have remarked on the increase in the number of entries; and the support that all, or nearly all, well-conducted Shows may depend on receiving. He would have gloried in the Crystal Palace; and, we doubt not, he would have been an exhibitor. In reporting these popular gatherings, we are, in many cases, excused from any description of the building in which they are held, because they are well-established; and, being always held in the same place, a full account has been given before.

Thus the *habitué* of Poultry Shows has in his mind's eye, when he reads of Liverpool, Lucas's comfortable Repository, with its classical statues around. If we speak of Birmingham, all the grandeur of Bingley Hall bursts upon him. And so, when it is a question of the Crystal Palace, he ascends the stairs, and is at once among the long row of pens, with their delicate shades of violet relieving the monotony of the white interiors of ordinary ones. This colouring belongs to the place where everything is artistic.

Our readers will be aware that Mr. Houghton, the experienced and indefatigable Secretary of this Show, has this time raised the price of his entries from 4*s*. to 6*s*. per pen; and the result has shown he was wise in doing so. The number of entries has increased; and it helps to make it, what all Shows should be—remunerating. The entire management is so good, that there can never be any doubt as to the result.

We will now merely add that there were 1080 pens exhibited; all of them containing good, and many of them most excellent birds. The sales on the first day alone amounted to £250: and those who went on the second and third days to find good and cheap birds were too late:—everything was bought up. The remark we have had occasion to make at almost all the recent Shows holds good at this—that the prizes have been more scattered about in the last poultry year than in any of its predecessors. With few exceptions, unvarying success has not been the lot of any particular exhibitor. The requisites for success are also better understood; and superficial observers are, in some instances, led to think slightingly of the successful, because they do not show as much superiority over their less fortunate competitors as they formerly did. The truth is, that the classes have improved; and the general excellence takes away from the apparent pre-eminence of the prizetakers. The latter have no foils to set them off.

We will now proceed to speak of the classes as they present themselves. The prize list will give the names of the successful; and we can only mention such as especially attracted the notice of the Judges and the public. The three classes of *Spanish* brought 96 pens. The principal prizetakers were Messrs. Botham and Rake, each taking three. While we record that there were numerous good, even perfect, birds in this class, yet we must in candour say that there was scarcely a pen in high condition. The combs of the hens and pullets were pale, and, in some cases, shrivelled; and we heard many experienced breeders say that their birds had never moulted so badly as this year. It is the more extraordinary, as we shall not have to say the same of any other class. An in-

spection of the catalogue, or even the prize list, will show that all the best yards in England sent their birds.

There were 197 entries of *Dorkings* in the various classes: and here the condition of all the birds was remarkably good. It will become a serious consideration whether more prizes must not be allotted to classes, which, like this, contribute so many entries. Forty-six appear in the list of awards, but only fifteen of them are prizes. It would far exceed our limits to mention separately all that were deserving of it. The first prizes in the two principal classes were taken by the Hon. W. W. Vernon and Capt. Hornby, with rose-combed birds in both cases. They were both remarkable pens, not only for size and beauty, but for condition. The Rev. G. Hustler came southward, and took a second prize with an excellent lot. The Rev. S. Donne took a third prize. The new names among the successful were Mr. E. Archer, Miss Franklin, and Mr. Lingwood. All our best Dorking breeders are among the High Commendations. It is impossible to speak too highly of these classes. The *White* also showed well; Capt. Beardmore taking two prizes. Messrs. Lingwood and Fisher Hobbs were first and second, and Mrs. Brooke third for single cocks. All these birds were of remarkable weight. Here, again, the Commendations were very numerous.

The adult *Buff Cochins* were very good, especially the hens. Many of the cocks had falling combs; and it cannot be too strongly impressed on exhibitors that such cannot be successful. The county once so famous for this breed—Dorsetshire, represented by Mrs. H. Fookes and Mr. Crane, took first and third. The Rev. Mr. Gilbert did the same in chickens: and Mr. Stretch was second in each. These classes are much improved. The *Grouse* birds were good, but do not call for especial notice. The *White* were unusually good—almost faultless. Messrs. Dawson and Chase had the honours of the adults; and Mr. Loe deservedly took all prizes for chickens. Nothing can exceed the beauty of the young cocks shown by this gentleman. Although the entries were numerous for Cochin China cocks, and the prize and commended birds excellent, yet they were not equal to those shown with pullets, if we except those mentioned in the awards.

Forty-five pens of *Brahma Pootras* made an excellent show of these useful birds. Messrs. Botham, Thursby, Vernon, and Teebay were the successful. Mr. J. K. Fowler was obliged to be content with High Commendations. Mr. Vernon's prize single cock weighed 1[illegible] lbs.

The Judges had next to encounter 202 pens of *Game* in the different classes. Among these, again, there was scattering of prizes and the appearance of new names. In the White and Piles, the chickens of which were very good, Mr. Monsey took both the first, and the Rev. G. S. Cruwys both the second prizes. In the classes for Black-breasted Reds the competition was very close; and the names of most of the successful will be a guarantee that the honours were deserved. Captain Hornby took two prizes; Messrs. Ballard, Buncombe, Dr. Sewell, and Mr. Cox, of Brailsford, divided the others. The Blacks and Brassy-winged were the weakest of all these classes; and the Judges withheld the first prize in the adult class. The Duckwings made amends. We have never in our experience seen so good an exhibition of these beautiful birds: and the awards of the Judges were endorsed by the immediate sale of all those that were not put at prohibitory prices. Messrs. Burgess and Ballard, and indeed all the prizetakers, may be proud of their birds. Mr. J. Martin took the prize for the best Game cock in a class of thirty-three entries. Mr. Monsey and Dr. Sewell were second and third. It was remarked, that, in this class, the Black-breasted Reds were far better than any others.

The *Golden-pencilled Hamburghs* were numerous, showing thirty-three entries. Mr. Clayton, who took the first prize at the last Crystal Palace Show, was here again successful with excellent chickens; but Mr. Hawksley beat him in adults. Mr. James, of Fareham, also showed some good birds; but, as a class, this was not one of the best in the Exhibition. Need we say that in the *Silvers* Mr. Archer was successful—first for adults, all the prizes for chickens, and second for single cocks. Mr. Fellowes, who had beaten him in the last class, showed a beautiful Golden bird; and in the chickens, the Highly Commended pens were very meritorious. The adults, however, prove, everywhere, that, in this breed, as in Cochins, more especially with hens, beauty belongs to youth. The elderly ladies lose the freshness and regularity of marking, that are the properties of the pullets; and they make a sorry appearance by the side of them.

The *Golden-spangled Hamburghs* were good; and here, if we except that their combs are not so fresh, the hens are quite as good as the pullets. Mr. Lane's birds were very good; as were those of Messrs. Brooke and Fellowes; the former gentleman wants, however, more spangling on the breast of his cocks. There were many faulty combs in the chicken class; and this seems to be a growing fault: it is a fatal one to success. Mrs. Pettat was again successful in the *Silver* chickens; and the cock in the prize-pen has the most perfect tail ever yet seen. But, as we have to remark as we go on, for the information of some, and the amusement of others, we must notice that, with the clear tails now required, there is, certainly, a loss of barring and lacing on the wing, just in the same way that in the Pencilled breeds, pencilled tails bring spotted hackles. Faulty combs were also seen among the *Silver-spangled* chickens; Messrs. Boswell and Swan's birds being exceptions. The first-prize adults, belonging to Mr. Botham, are, we believe, the parents of Mrs. Pettat's birds.

The *Black Polands* with white crests were an average class, without attaining the high degree of merit we sometimes have to record. Messrs. Edwards, G. S. Fox, and Battye, showed the best birds.

The Judges declared the *Golden Polands* to be a very good class. Both the first prizes were awarded to Mr. Greenall for beautiful birds; and the victory will be understood to have been well disputed, when we say, the other prizetakers were Mrs. Pettat and Messrs. Coleridge, Conyers, and Churchill. The *Silvers* afforded another triumph in old birds to Mr. Greenall; and to Mr. P. Jones in chickens. Mrs. Pettat also took two prizes. All these birds were excellent; but the pen running Mr. Greenall most closely, was one the property of Mr. Adkins. The two most successful exhibitors in the other classes, Mr. Greenall and Mrs. Pettat, gained the honours of the *Single Cock* class.

Malays are always strong at the Crystal Palace; and there were twenty-five pens, many of them excellent. We must especially notice the first-prize birds of Messrs. Manfield and Rumsey, and those of Messrs. Leighton and Burrows.

The *Various* class was unusually rich. The *Crève Cœurs* were not very good; the *Silkies* were excellent; the *Black Hamburghs* good; the *Sultans* very good. The same may be said of the *Andalusians*, *White Polish*, and *White Spanish*: but, in the latter, the colour of the face, so beautiful in the Black breed, gives a tame expression to the bird.

The *Gold-laced Bantams* were good; Messrs. Leno and the Rev. G. F. Hodson showing the best, but hard run by the Hon. Miss Russell.

The *Silvers* were good Bantams; but there are no Silvers now-a-days. Messrs. Spary and Conyers had the prizes.

There were some beautiful *White Bantams*, and they added another to the many triumphs of Mr. T. P. Mew in this breed. The pen belonging to the Rev. Mr. Cruwys was also a very good one. The *Blacks* were an excellent class; and seven pens appear in the list of prizes. We are bound to speak in highest praise of those shown by Messrs. Hawksley and Ridgway. It may be well to notice here that in these classes the cocks must have long flowing tails. The *Game Bantams* bid fair to become the most numerous class, and furnished twenty pens. Mr. Crosland took the first prize; and Mr. Forrest, with his celebrated Duckwings, took the second prize; while all his other pens were highly commended. There were some rose-combed birds shown: this is a mistake as fatal as single combs would be to Sebrights.

The *Geese*, although good, were not numerous; showing, in the two classes but nine entries. The best pen was undoubtedly that belonging to Mr. Fowler: but one of the Geese was injured so as to be disqualified. The White weighed, respectively, 59 lbs., 58 lbs., and 49 lbs. The Grey, 47½ lbs., and 47 lbs. Thus the Whites average nine birds of more than 18 lbs. each.

Formerly, *Aylesbury Ducks* were thought good if they weighed 6 lbs. each; but we now think little of them, if they do not reach 8 lbs. The successful were here 22¾ lbs., 22½ lbs., and 22 lbs. We have never seen a class where the bills were so uniformly good as in this.

We are bound to speak highly of the *Rouens*, they were

excellent. The Rev. Mr. Fellowes had an easy triumph with three weighing 22 lbs.; the next, Mr. Theed Pearse, 17¾ lbs.; and Mr. Breavington's 17 lbs. If fed like the Aylesburies, we have no doubt these would weigh as much.

It is time a class was given for the *Buenos Ayrean* ducks. They are more numerous than many of the classes in a Show, and they are certainly very handsome. We had the novelty in this Various class of a pen of the beautiful *Mandarins*. The Buenos Ayrean were excellent. The Call Ducks were too large.

Mr. Brand is fast monopolising the first prizes for *Turkeys*, at all the large Shows, and small wonder when we record that his adult birds weighed 77 lbs. We speak advisedly, when we say such a pen was never before shown. His young birds weighed 62 lbs. Mr. W. Cox showed some good Americans; and Mr. Fisher Hobbs exhibited some wonderful birds, which were, unfortunately, disqualified, being in the wrong class. Mr. Rodbard's second prize pen weighed 63 lbs.—a very large total. We note these weights particularly, as they plainly show not only the progress, but the utility of the pursuit and its result.

All the arrangements were excellent. There was a large attendance of company, and the sales exceeded £400. The amount would have been greater, but many enclosures from the country had to be returned, as the pens they were intended to purchase were already claimed.

Too much praise cannot be awarded to Mr. Houghton, for the quiet and the efficient way in which he performs the duties of his arduous task.

JUDGES OF POULTRY. — Messrs. Andrews, Baily, and Hewitt.

JUDGES OF PIGEONS.—Messrs. Bellamy and Cottle.

SPANISH.—First and Fourth, G. Botham. Second, J. Busst, jun. Third, Miss M. L. Rake. Commended, W. Bailey, Miss M. L. Rake. *Chickens.*—First and Fourth, J. R. Rodbard. Second, C. Carey. Third, Miss M. L. Rake. Highly Commended, T. Sheen. Commended, J. Busst, jun., C. Carey, J. Conyers, jun., J. K. Fowler, and G. W. Locke. (Both the Spanish classes good.) *Cocks.*—First, G. Botham, Second, Master M'Gregor Rake. Third, Rev. J. D. L. Simmonds. Highly Commended, W. J. Woodhouse.

DORKINGS (Coloured).—First, Hon. W. W. Vernon. Second, Rev. G. Hustler. Third, Rev. S. Donne. Fourth, J. Frost. Highly Commended, Hon. W. W. Vernon, Capt. W. Hornby, R.N., G. Botham, A. H. L. Popham, and C. Smith. Commended, Dr. J. D. Hewson, J. K. Fowler, G. S. Fox, and J. Lock. *Chickens.*—First, Capt. W. Hornby, R.N. Second, E. Archer. Third, Miss F. Franklin. Fourth, H. Lingwood. Highly Commended, Rev. J. Boys, Rev. E. K. Lutt, R. Boys, J. Frost, Mrs. Parkinson, and C. Revett. Commended, The Right Hon. the Lady Dacre, Hon. W. W. Vernon, Rev. J. Boys, and J. Bedford.

DORKINGS (White).—First, H. Lingwood. Second, Capt. J. Beardmore. Highly Commended, J. Jennens. *Chickens.*—First, Capt. J. Beardmore. Second, Mrs. H. Fookes. Highly Commended, J. Camon. Commended, H. Allsopp, R. James, and H. Lingwood.

DORKING COCKS (White and Coloured). — First, H. Lingwood. Second, W. F. Hobbs. Third, A. G. Brooke. Highly Commended, Capt. Townshend, Mrs. Green, and W. F. Hobbs. Commended, G. Ferrige, jun., and H. Ferrige.

COCHIN-CHINA (Cinnamon and Buff).—First, Mrs. H. Fookes. Second, T. Stretch. Third, J. Crane. *Chickens.*—First and Third, Rev. G. Gilbert. Second, T. Stretch.

COCHIN-CHINA (Brown and Partridge).—First, Mrs. E. Herbert. Second, B. Ford. Third, G. C. Adkins. *Chickens.*—First, J. K. Fowler. Second, Rev. G. F. Hodson. Third, J. Busst, jun.

COCHIN-CHINA (White).—First, W. Dawson. Second, R. Chase. Highly Commended, R. Chase. *Chickens.*—First and Second, H. Loe, jun. Highly Commended, H. Loe, jun. Commended, R. Chase, Mrs. E. Herbert.

COCHIN-CHINA COCKS (Coloured and White).—First, W. Manfield, jun. Second, Mrs. E. Herbert. Highly Commended, Rev. G. Gilbert, W. Lamb, T. Stretch, and E. H. Strange.

BRAHMA POOTRA.—First, G. Botham. Second, Rev. F. Thursby. Highly Commended, J. H. Craigie, and T. H. Fox. *Chickens.*—First and Second, R. Teebay. Highly Commended, G. Botham, and J. K. Fowler. *Cocks.*—First, Hon. W. W. Vernon. Second, G. Botham. Highly Commended, J. K. Fowler, and Miss J. Milward.

GAME (White and Piles).—First, J. Monsey. Second, Rev. G. S. Cruwys. Third, S. Ridley. *Chickens.*—First, J. Monsey. Second, Rev. G. S. Cruwys. Third, S. Matthew. Highly Commended, W. Dawson. (A good class.)

GAME (Black-breasted and other Reds).—First, W. Ballard. Second, W. Buncombe. Third, Capt. W. Hornby, R.N. Highly Commended, S. Salter. Commended, J. Crane, and C. E. King. (A capital class.) *Chickens.*—First, Capt. W. Hornby, R.N. Second, R. R. Sewell, M.B. Third, W. Cox. Highly Commended, W. Ballard, W. Burgess, and A. C. Swain. Commended, Rev. G. S. Cruwys, J. Crane, and E. H. Strange. (A very good class.)

GAME (Blacks and Brassy-winged, except Greys).—Second, J. P. Brindley. Third, J. Jennens. (First withheld.) *Chickens.*—First, H. Parry. Second and Third, W. Ballard.

GAME (Duckwings and other Greys and Blues).—First, W. Ballard. Second, W. Dawson. Third, S. Matthew. Highly Commended, H. Churchill. (An unusually good class.) *Chickens.*—First, W. Burgess. Second, H. Shield. Third, T. W. Pearse. Highly Commended, G. E. Attwood, T. W. Pearse, and R. Swift. Commended, Hon. W. W. Vernon, and W. H. Swann. (A very good class.)

GAME COCKS.—First, J. Martin. Second, J. Monsey. Third, R. R. Sewell, M.B. Highly Commended, S. Matthew, T. Sheen, H. Shield, and D. Smith. (A good class.)

HAMBURGHS (Gold-pencilled).—First, R. Hawksley, jun. Second, R. R. Clayton. Third, T. P. Mew. *Chickens.*—First, R. R. Clayton. Second, R. James. Third, C. R. Titterton. Highly Commended, Rev. T. L. Fellowes.

HAMBURGHS (Silver-pencilled).—First, E. Archer. Second, Rev. J. A. Briggs. Third, Mrs. Amery. *Chickens.*—First, Second, and Third, E. Archer. Highly Commended, G. Botham, T. Keable, and R. Oxley.

HAMBURGH COCKS (Gold and Silver-pencilled).—First, Rev. T. L. Fellowes. Second, E. Archer. Highly Commended, F. B. Pryor, and W. Bennett. (A good class.)

HAMBURGHS (Gold-spangled). — First, W. R. Lane. Second, G. Brook. Third, Rev. T. L. Fellowes. *Chickens.*—First, I. Davies. Second, E. Boswell. Third, M. H. Broadhead.

HAMBURGHS (Silver-spangled).—First, G. Botham. Second, Messrs. Bird and Beldon. *Chickens.*—First, Mrs. Pettat. Second, E. Boswell. Third, W. H. Swann. Highly Commended, Rev. T. L. Fellowes.

HAMBURGH COCKS (Gold and Silver-spangled).—First, I. Davies. Second, W. G. Perfect. Highly Commended, H. Beal.

POLANDS (Black with White Crests).—First and Third, T. P. Edwards. Second, T. Battye. *Chickens.*—First, G. S. Fox. Second, J. Bamforth. Third, T. Battye.

POLANDS (Golden).—First, J. F. Greenall. Second, J. Conyers, jun. Third, H. Churchill. (A very good class.) *Chickens.*—First, J. F. Greenall. Second, Mrs. Pettat. Third, C. E. Coleridge.

POLANDS (Silver).—First, G. Greenall, jun. Second, G. C. Adkins. Third, R. W. Fryer. Highly Commended, W. Dawson. *Chickens.*—First, P. H. Jones. Second and Third, Mrs. Pettat.

POLISH COCKS. — First, G. Greenall, jun. Second, Mrs. Pettat. Highly Commended, G. Ray.

MALAY.—First, W. Manfield, jun. Second, R. Burrows. *Chickens.*—First, W. Rumsey. Second, J. Leighton. Highly Commended, J. J. Fox, J. Rumsey, and S. Saunders. Commended, J. Stainburn. (A very good class.)

ANY OTHER BREED. — First, G. Greenall, jun. (White Polish). Second, W. Grove (Silky Negroes). Third, Rev. T. L. Fellowes (Black Hamburgh). Fourth, W. Dawson (Sultans). Highly Commended, C. Coles (Andalusian); A. B. Frend (Shanghae Game).

BANTAMS (Gold-laced).—First, M. Leno, jun. Second, Rev. G. F. Hodson. Highly Commended, Hon. Mary Russell, and Rev. F. Thursby. Commended, J. F. Mortimer, and U. Spary.

BANTAMS (Silver-laced). — First, U. Spary. Second, Rev. G. S. Cruwys. Commended, M. Leno, jun., and J. Monsey.

BANTAMS (White).—First, T. P. Mew. Second, Rev. G. S. Cruwys. Commended, J. K. Bartrum, J. Monsey, and W. S. Smith.

BANTAMS (Black).—First, R. Hawksley, jun. Second, M. Ridgway. Highly Commended, W. Barber, T. H. D. Bayley, J. Choyce, jun., W. H. Holmes, and W. R. Rose.

BANTAMS (any other variety).—First, J. Crosland, jun. Second, W. S. Forrest. Highly Commended, H. Churchill, W. S. Forrest, and G. Finch. Commended, C. R. Colville, M.P., F. G. Dutton, S. Jackson, and J. Monsey.

GEESE (White).—First, G. Daft. Second, J. Conyers, jun. Third, W. Manfield, jun.

GEESE (Grey and Mottled).—First, S. C. Baker, Second, T. Williams. (Third withheld).

DUCKS (White Aylesbury).—First, J. Weston. Second, B. Ford. Third, J. Seamons. Highly Commended, Mrs. H. Fookes. Commended, W. Molyneux, and J. Weston.

DUCKS (Rouen).—First, Rev. T. L. Fellowes. Second, Rev. T. W. Pearse. Third, W. G. K. Breavington. Highly Commended, W. H. Denison, and R. Green.

DUCKS (any other variety).—First, H. Churchill. Second, A. D. Bartlett. Third, Rev. Dr. Allen.

TURKEYS.—First, R. Brand. Second, J. R. Rodbard. Third, T. Williams. Highly Commended, Rev. T. L. Fellowes. *Poults.*—First, R. Brand. Second, W. Cox. Third, Miss I. G. Loraine.

GUINEA FOWLS.—Prize, Miss F. Macdonald.

PIGEONS.

POUTERS.—*Black Cocks.*—Prize withheld. *Black Hens.*—Prize, W. Smith. *Yellow Cocks.*—Prize, J. Firth. Commended, H. S. Salisbury. *Yellow Hens.*—Prize, J. Firth. Commended, W. Thompson. *Blue Cocks.*—Prize, F. G. Stevens. Highly Commended, W. R. Rose. *Blue Hens.*—Prize, S. Summerhayes. (Whole class commended.) *Red Cocks.*—Prize, H. Holdsworth. Highly Commended, W. Thompson. Commended, G. C. Adkins, and F. G. Stevens. (The whole class commended.) *Red Hens.*—Prize, W. Smith. *White Cocks.*—Prize, G. Ure. Commended, T. Bridges. *White Hens.*—Prize, J. Firth.

CARRIERS.—*Black Cocks.*—Prize, G. C. Adkins. Prize, W. Thompson. Very Highly Commended, H. Holdsworth. Highly Commended, F. G. Stevens. Commended, G. Crocker. *Black Hens.*—Prize, W. Thompson. Highly Commended for her properties, but diseased in one eye, G. C. Adkins. *Dun Cocks.*—Prize, W. Cross. Commended, J. F. Mortimer, and W. Thompson. *Dun Hens.*—Prize, W. Thompson. Highly Commended, W. Cross, and W. Smith. Commended, F. G. Stevens. *Blue Cocks.*—Prize, W. Thompson. *Blue Hens.*—Prize, J. R. Holmes. *White Cocks.*—Prize, S. Summerhayes. *White Hens.*—Prize, W. Cross.

DRAGOONS.—*Black.*—Prize, J. Davey. Commended, F. G. Stevens. *Blue.*—Prize, J. Davey. *Red.*—Prize, F. G. Stevens. *Yellow.*—Prize, S. Summerhayes. (A very good class.) *White.*—Prize, F. G. Stevens. Very Highly Commended, G. C. Adkins. Commended, A. G. Brooke.

ALMOND TUMBLERS.—First, E. R. Maddeford. Second, J. Thomas. Third, J. Percivall. Highly Commended, J. Davey. Commended, J. M. Eaton. (A very good class.)

SHORT-FACED MOTTLES.—*Black.*—Prize, F. G. Stevens. *Red.*—Prize, withheld. *Yellow.*—Prize, F. G. Stevens.

SHORT-FACED BALDS.—*Blue.*—Prize, E. A. Lingard. *Silver.*—Prize withheld. One of the birds having been plucked. *Yellow.*—Prize, H. Morris.

SHORT-FACED BEARDS.—*Blue.*—Prize, H. White. Commended, J. Thomas. *Red.*—Prize, W. J. Woodhouse. *Silver.*—Prize, F. C. Esquilant. *Yellow.*—Prize, W. J. Woodhouse.

SHORT-FACED TUMBLERS.—*Black.*—Prize, E. R. Maddeford. Highly Commended, E. C. Esquilant. Commended, H. Simpson, and F. G. Stevens. *Blue.*—Prize, F. C. Esquilant. *Red.*—Prize, F. C. Esquilant.

JACOBINES.—*Black.*—Prize, E. R. Maddeford. *Red.*—Prize withheld. *Yellow.*—Prize, E. R. Maddeford. Commended, J. Percivall.

OWLS.—*Blue.*—Prize, E. H. Burge, *Silver.* — Prize, G. Robson. Highly Commended, G. C. Adkins, and F. A. Lavender. *Yellow.*—J. Percivall. *Black or White.*—Prize, C. Cotton.

NUNS.—*Black.*—Prize, G. C. Adkins. *Red.*—Prize, Miss J. Milward. *Yellow.*—Prize withheld.

TURBITS.—*Blue.*—Prize, Capt. H. Adney. Commended, Miss S. A. Elliott. *Red.*—Prize, E. R. Maddeford. *Yellow.*—Prize, E. R. Maddeford. *Black.*—Prize, G. C. Adkins.

FANTAILS.—*Black.*—Prize, G. C. Adkins. *Blue.* — Prize, G. C. Adkins. Commended, H. S. Salisbury. *White.*—Prize, G. C. Adkins. Highly Commended, F. A. Lavender. (The class Highly Commended.)

BARBS.—*Black.*—Prize, P. H. Jones. Highly Commended, G. C. Adkins. Commended, E. R. Maddeford. *White.*—Prize, S. C. Baker. *Yellow.*—Prize, E. R. Maddeford. *Red.*—Prize, F. G. Stevens.

MAGPIES.—*Yellow.*—Prize, H. Morris. *Black.*—Prize, Miss Elliot. *Red.*—Prize, F. A. Lavender.

TRUMPETERS.—Prize, G. C. Adkins. Highly Commended, H. Gilbert, and F. G. Stevens.

LARGE SPANISH RUNTS.—Prize, S. C. Baker. Highly Commended, P. H. Jones.

LARGE LEGHORN RUNTS.—Prize, S. C. Baker. Highly Commended, Hon. W. W. Vernon.

PORCELAIN.—Prize withheld.

ANY OTHER VARIETY.—Prize, H. Gilbert (Bald Hyacinths). Prize, E. V. Harcourt (Booz Pigeons from Tunis). Commended, F. G. Stevens (Yellow Mottled Owls); J. Thomas (Silver Mealy Owls); W. B. Tegetmeier (Scanderoons); W. B. Twose (Dun).

It was the opinion of the Judges that this was the best exhibition of Pigeons ever held.

BURNLEY AND EAST LANCASHIRE POULTRY SHOW.

THIS was held on the 30th and 31st of December. No prize list was published; and we could not obtain an enumeration of the awards until too late for even our last number. We think Secretaries would do well to send us early copies of the prize lists.

SPANISH.—Cup and Second, J. Howard, Tarleton, Chorley. Highly Commended, J. K. Fowler, Prebendal Farm, Aylesbury. Commended, F. Rothwell, Rochdale; J. Horrocks, jun., Preston; W. Brundritt, Churchfield House, Runcorn.

DORKINGS (Coloured).—Cup, Rev. G. Hustler, Appleton, Tadcaster. Capt. Hornby, R.N., Knowsley Cottage, Prescot. Highly Commended, J. Horrocks, jun., Preston. Commended, R. Landless, Marsden, near Burnley.

DORKINGS (White). — First, D. Parsons, Cuerden, near Preston. Second, J. Camm, Farnsfield, Southwell, Notts.

COCHIN-CHINA (Cinnamon and Buff).—Cup, T. Stretch, Bootle, near Liverpool. Second, R. Sergenson, 8, Chester Street, Liverpool. Highly Commended, W. Copple, Eccleston, Prescot.

COCHIN-CHINA (Brown and Partridge-feathered). — First, Miss V. W. Musgrove, Aughton, near Ormskirk. Highly Commended, P. Cartwright, Oswestry. Commended, J. L. Harrison, Foxholes, near Lancaster; H. Tomlinson, Balsall Heath Road, Birmingham.

BRAHMA POOTRA (any shade).—First, R. Teebay, Fulwood, Preston. Second, J. Dixon, Bradford. Highly Commended, R. Teebay, Fulwood, Preston.

GAME (Black-breasted and other Reds).—First, G. Robinson, Thorpe Hall, Worksop. Second, G. W. Moss, Liverpool. Highly Commended, R. Whitham, Pancake House, near Burnley; W. Dawson, Selly Oak, Birmingham. Commended, T. Burnett, Hutton, Preston; G. Holgate, Nelson House, Burnley.

GAME (Duckwings, and other Greys and Blues).—First, R. Swift, Southwell, Notts. Second, A. Sutherland, Burnley. Highly Commended, R. Grimshawe, Bank House, near Burnley; W. Turner, Earby, near Skipton; J. Dixon, Bradford. Commended, G. W. Moss, Liverpool; C. J. Dodds, Ovenden, near Halifax; Noble and Ieson, Heckmondwike; H. Shield, Preston, Uppingham.

GAME (White and Piles). — First, C. R. Titterton, Birmingham. Second, T. H. D. Bayley, Ickwell House, Biggleswade. Highly Commended, G. W. Moss, Liverpool; G. Robinson, Thorpe Hall, Worksop; G. Hellewell, Walkley, Sheffield; Haigh and Hartley, Holmfirth. Commended, W. Moorhouse, Read, near Whalley; H. Sheild, Preston, Uppingham; J. Camm, Farnsfield, Southwell; T. Wareing, 119, Friargate Brow, Preston.

GAME (any other variety).—First, W. Dawson, Selly Oak, Birmingham (Black Game). Second, Rev. T. E. Abrahams, Bickerstaff, Ormskirk (Black Game). Highly Commended, J. Dixon, Bradford (Black Game); R. Whitham, Pancake House, near Burnley (Red-spangled); J. Brown, Pole Street, Preston (Black Game). Commended, D. Parsons, Cuerden, near Preston (Gypsy-faced Game).

HAMBURGH (Golden-pencilled).—First, W. C. Worrall, Rice House, Liverpool. Second, Mrs. H. Sharpe, 47, Mill Lane, Bradford. Highly Commended, C. R. Titterton, Birmingham.

HAMBURGH (Silver-pencilled).—First and Second, J. Dixon, Bradford. Highly Commended, J. Fielding, Newchurch, Rossendale. Commended, W. Harrison, Cock Leach, near Colne.

HAMBURGH (Golden-spangled).—First, W. C. Worrall, Rice House, Liverpool. Second, Haigh and Hartley, Holmfirth. Highly Commended, J. Craven, Jumble Bridge, Wakefield. Commended, W. Kershaw, Heywood.

HAMBURGH (Silver-spangled).—First, D. Wilson, Sutton Fields, Cross Hills. Second, J. Dixon, Bradford. Bird and Beldon, West Parade, Bradford. *Disqualified from being painted.*

POLAND (Golden). — First, J. Dixon, Bradford. Second, W. W. Brundrit, Churchfield House, Runcorn. Highly Commended, R. H. Bush, Clifton, near Bristol. Commended, J. F. Greenall, Grappenhall Hall, Warrington.

POLAND (Silver).—First, J. F. Greenall, Grappenhall Hall, Warrington. Second, W. W. Brundritt, Churchfield House, Runcorn. Highly Commended, J. Dixon, Bradford. Commended, J. F. Greenall, Grappenhall Hall, Warrington.

POLAND (any other variety).—First, J. F. Greenall, Grappenhall Hall, Warrington (Black). Second, T. Battye, Holmbridge, Huddersfield (White-crested Black). Commended, G. S. Fox, the Court, Wellington, Somerset (White-crested Black).

ANY OTHER DISTINCT BREEDS.—First, Mrs. A. Watkin, Walkeley, near Sheffield (Sultans). Second, J. Dixon, Bradford (Malays).

BANTAMS (Gold and Silver-laced).—First and Second, M. Leno, jun., Harpenden, Hertfordshire. Highly Commended, C. R. Titterton, Birmingham; T. H. D. Bayley, Ickwell House, Biggleswade. (The whole class commended.)

BANTAMS (any other variety).—First, R. Swift, Southwell, Notts (Game Bantams). Second, T. H. D. Bayley, Ickwell House, Biggleswade. Highly Commended, C. A. Titterton, Birmingham. Commended, J. Crossland, jun., Wakefield.

GAME COCK (of any age or colour).—First, G. W. Moss, Liverpool. Second, R. Swift, Southwell, Nottinghamshire. Highly Commended, W. Moorehouse, Read, near Whally; D. Parsons, Cuerdon, near Preston; J. A. Carter, Burnley; A. Sutherland, Burnley; G. Robinson, Thorpe Hall, Worksop; W. Dearden, Almondbury, Huddersfield. Commended, Haigh and Hartley, Holmfirth, Yorkshire.

SPANISH CHICKENS OF 1857 (given by the ladies of Burnley).—First, W. W. Brundrit, Churchfield House, Runcorn. Second, J. Dixon, Bradford. Highly Commended, J. R. Rodbard, Langford, near Bristol; J. Blinster, Latchford Mills, Warrington; D. Wilson, Sutton Fields, near Cross Hills. Commended, Capt. Hornby, R.N., Knowsley Cottage, Prescot.

AYLESBURY DUCKS.—First, J. Abbott, Kendal. Second, J. Weston, Aylesbury. Commended, W. Bottomley, Shelf, near Halifax.

ROUEN DUCKS.—First, J. C. Forrest, Lower Darwen. Second, A. Sutherland, Burnley. Highly Commended, J. Dixon, Bradford. Commended, W. W. Brundrit, Churchfield House, Runcorn.

DUCKS (any other variety).—First, J. Dixon, Bradford (Grey Call). Second, D. Parsons, Cuerden, near Preston (Buenos Ayres).

GEESE (any variety).—First, W. Copple, Eccleston, Prescot. Second, W. Kershaw, Heywood. Highly Commended, Capt. Hornby, R.N., Knowsley Cottage, Prescot.

TURKEYS (any variety). — First, J. R. Rodbard, Langford, near Bristol (Cambridge). Second, W. Kershaw, Heywood.

PIGEONS.—*Carriers.*—First, W. Smith, Kent House, Halifax. Second, M. Greenwood, Burnley. *Tumblers.*—First, T. Procter, King's Mill, Settle, Yorkshire (Mottled). Second, W. Smith, Kent House, Halifax (Mottled). *Fantails.*—First, C. R. Titterton, Birmingham. Second, S. Robson, Pocklington. *Dragoons.*—First, J. B. Wilford, Whitefriargate, Hull. Second, M. Greenwood, Burnley. *Any other variety.*—First, C. R. Titterton, Birmingham (Runts). Second, H. Holdsworth, Woolshops, Halifax (Pouters).

RABBITS *(best Lop-eared).*—First, C. R. Titterton, Birmingham. Second, G. Jones, 4, Lease Lane, Birmingham.

RABBITS (any other variety). — First, E. Waddington, Burnley. Second, J. Hargreaves, Marsden, near Burnley.

NOTTINGHAM CENTRAL POULTRY ASSOCIATION.

(*Communicated.*)

WE have great pleasure in calling the attention of our readers to the announcement of the great annual Exhibition of Poultry, Pigeons, Canaries, Rabbits, &c., which will be on view on Wednesday, Thursday, and Friday next, the 20th, 21st, and 22nd inst., at the Mechanics' Hall, Nottingham. This is the second Exhibition of the kind that will have been witnessed in Nottingham, the Association having inaugurated their first excellent Poultry Show, as most of our readers are aware, in the commencement of 1857.

From the exertions of the Committee and their indefatigable Secretary, we are convinced that no effort or expense has been spared in making this unique and attractive Show complete in every respect. Great improvements are observable in the preparations, by which the arrangements will vastly excel those of the former Exhibition. A large temporary structure of wood and glass has been erected on the vacant piece of ground, at the rear of the Hall, measuring ninety-two feet by thirty-two feet; covering an area nearly equal to that of the Hall itself. This is designed to accommodate 500 pens of poultry, arranged so as afford ample space for the convenience of visitors in inspecting the beautiful specimens of birds that will be offered for competition. By this advantageous addition to the capabilities of the Mechanics' Hall, the other departments of the Exhibition will be seen to greater perfection in the large

hall; which proved far too small, and was inconvenientl crowded at the first Exhibition of this Association. In addition to the larger and more important Show of poultry, a valuable and beautiful variety of Pigeons will be shown; and a most delightful collection of Canaries is entered for competition. The Exhibition of these charming little songsters, which took place last year, in connection with the Poultry Association, was highly interesting, and satisfactory in the extreme; and was, we believe, the first attempt of the kind in the country.

The complete list of entries numbers about 850 pens, including Poultry, Pigeons, Canaries, and Rabbits. The competition bids fair to be of a first-rate character; the birds entered being of superior qualities in all the usual pure breeds, and embracing every variety from the Spanish down to the Bantam. Amongst the distinguished names in the list of exhibitors, we observe those of the Earl and Countess of Chesterfield, Lord and Lady Middleton, Lord Edwin Hill, M.P., Norwood Park, Southwell, the Lady Evelyn Stanhope, and many other persons of distinction, several of whom belong to our county, who are well known for their careful attention to breeding, and the excellence of their stock. The services of some of the most celebrated Judges in the kingdom have been secured for the purpose of awarding the numerous prizes. The total value of these, is about £230; proportioned in various money prizes, ranging from £10 to 10*s.*, several silver cups, medals, and valuable pieces of plate, which are offered for the best specimens in all the several classes of the Exhibition. We perceive there are about thirty distinct classes of poultry, seventeen of Pigeons, sixteen of Canaries, and four of Rabbits. The whole range of the building will be tastefully decorated, and brilliantly illuminated with gas; and every precaution taken to secure the comfort of visitors. The private view will take place at two o'clock, on Wednesday; and on Thursday and Friday, the Exhibition will be opened from ten o'clock in the morning, till ten at night. The Show will be open for three days only; and, on the last day, in order to give the working classes of this large and populous town, an opportunity of viewing the beautiful specimens that will be produced, they will be admitted at the reduced charge of sixpence each. Special trains will be run by the Great Northern and Midland Railway Companies. It may be well here to remark, that at four o'clock on the first day of the Exhibition, the first, second, and third prize birds, will be put up by auction, at the prices stated in the catalogue; and in case the birds sell for more than this sum, the surplus will be handed over to the owners, after deducting ten per cent. for the expenses of the sale. A sale by auction, will also take place in the Exhibition room, on Saturday morning, at ten o'clock; and any person wishing to dispose of their surplus stock, may do so, by informing the Secretary of their intention, not later than six o'clock P.M. on Friday. No birds will be allowed to be removed till the close of the Exhibition. A refreshment room, on an extended scale, will be provided.

PHILOPERISTERON ANNUAL SHOW.

The annual *re-union* of the Philoperisteron Society took place on Tuesday last at Freemason's Hall; the members, as usual, showing a collection of birds which, it is not too much to say, cannot be equalled, much less surpassed, by any other in the kingdom.

Mr. Wicking's collections of Magpies and Owls were extraordinarily beautiful; and his pen of Almond and other short-faced Bald-heads unique. Mr. Bult's Pouters were his best. Mr. Hayne was, as usual, pre-eminent in Carriers; many exceedingly good birds being shown by a new member, Mr. Oliver. Messrs. Esquilant and Fossick had some valuable high-class Tumblers; and Mr. Weir some Fantails, Nuns, Owls, and other varieties, that are too well known at the ordinary Shows to require any eulogium.

The visitors were numerous, fashionable, and scientific. It relieves Pigeon fancying from all charge of triviality when savans of such reputation as Messrs. Darwin and Waterhouse show, by their attendance and interest, that the changes capable of being produced in any species by domestication, are worthy of the deep attention of scientific inquirers; and in no species are these changes greater, or more varied, than in the Pigeon.

OUR LETTER BOX.

Sandbach Poultry Show.—"Oblige me by correcting an error which appeared in your report of the Sandbach Poultry Show. The first prize for Spanish fowls was awarded to me, and not to Mr. B. Cotton, who took the second prize."—S. H. Hyde, *Ashton-under-Lyne.*

Winter Layers.—"In reply to 'Observer's' letter of the 9th of December, which appeared in The Cottage Gardener, I have, at present, birds of the following breeds, laying almost every day:—Cochin-Chinas, Black Spanish, Golden-spangled Hamburgh pullets, and Black Bantams. The first-mentioned are by far the best winter layers, so far as I have observed; but owing, as I suppose, to the unusual mildness of the season, the other birds I have mentioned, have not yet given over."—A Yorkshire Amateur.

Carrier Pigeon at the Crystal Palace (*E. M. St.*).—State your charge temperately, and sign your real name, and we will insert your letter.

Cochin Cockerel (*T. Pilten*).—Your cockerel has an ulceration of some of his viscera. We fear there is no chance of saving him. We should have put him in a temperate place, and given him barley meal and an unlimited supply of green food.

Incubator (*J. L. W.*).—Heated by a lamp it certainly would not give enough heat. The temperature must be kept at 105°. We have no knowledge of the management of such a machine. Cantelo published a pamphlet giving full directions.

Diary.—We are requested to state that the "Diary for the Dairy and Poultry Yard, &c.," will be ready in about ten days; and that the delay in publication has been unavoidable.

LONDON MARKETS.—January 18th.

POULTRY.

The trade is gradually improving; and the supply of everything is moderate, except Pheasants and Hares, which are still far more numerous than usual, and meet a heavy sale at low prices.

	Each.		Each.
Cock Turkeys	11*s.* 0*d.* to 16*s.* 0*d.*	Ducks	3*s.* 0*d.* to 4*s.* 0*d.*
Hen do.	6 6 ,, 9 0	Wild ditto	2 6 ,, 3 0
Large Fowls	5 0 ,, 6 0	Teal	1 6 ,, 1 9
Small ditto	3 6 ,, 4 6	Snipes	1 3 ,, 1 4
Chickens	2 0 ,, 2 9	Rabbits	1 4 ,, 1 5
Geese	6 0 ,, 7 6	Wild ditto	0 9 ,, 0 10
Woodcocks	2 6 ,, 3 6	Pigeons	1 0 ,, 1 2

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WEEKLY CALENDAR.

D M	D W	JAN. 26 to FEB. 1, 1858.	Weather near London in 1857. Barometer.	Therm.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock afterSun	Day of Year.
26	Tu	Hermannia alnifolia.	29.805—29.615	36—30	N.E.	.15	30 a. 7	36 a. 4	5 a. 36	11	12 32	26
27	W	Geraniums.	29.865—29.847	36—19	N.E.	—	49	38	6 37	12	13 4	27
28	Th	Jasminum ligustrifolium.	29.839—29.706	37—18	N.E.	—	47	40	7 41	13	13 15	28
29	F	Jasminum nudiflorum.	29.572—29.778	32—14	N.	—	46	41	rises	☽	13 26	29
30	S	King Charles I., Mart., 1649.	29.842—29.615	38—30	N.W.	—	44	43	6 29	13	13 36	30
31	Sun	Septuagesima Sunday.	29.849—29.597	39—8	S.W.	—	43	45	7 42	14	13 46	31
1	M	Acacia urcinata.	29.916—29.853	35—14	S.W.	—	VII.	IV.	9 2	15	— —	32

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 44.1° and 31.4°, respectively. The greatest heat, 56°, occurred on the 28th, in 1848; and the lowest cold, 19°, on the 27th, in 1855. During the period 120 days were fine, and on 97 rain fell.

STANDARDS.

This is just the right time to set about making the first move in the right direction of standard ornamentals, be they Myrtles, or "*fly flappers*," as Dr. Lindley named the first incipient standards of *Deutzia gracilis*; as if we could have standards, or doctors, without a nursery; or having them, to keep them in the background, till they were ripe for use, ornament, or mischief. We needed not to have exhibited such standards till they were of a respectable size, it is true; but that was no reason why any one should set his face against them altogether.

When we first recommended standards to be made of all our principal shrubbery plants, in the early volumes of The Cottage Gardener, the process was to be this:—Cut down in the spring, to the surface of the ground, such evergreen or deciduous shrubs as were intended to have standards from; and the strong sucker-like shoots, which would rise from the stools, were to be layered next year, or to be earthed up so as to root without layering, as some of them would do easily enough; as, for instance, the common Laurel, and even the Portugal Laurel, though not so soon. At that time, the great annoyance which we experienced from a host of suckers rising from the bottom of standards so prepared, did not occur to us; or if it did, we did not then sufficiently perceive the evil, to propose an effectual remedy. But now that the Crystal Palace people have imported so many fine Bay and other standards, and standards have become a regular branch of nursery business, we see the error of the false move at the beginning; for most of these standards give much trouble to the gardener, to keep the suckers out of sight. And when these and other such standards are planted out in the open ground, the difficulty is much greater; and without constant looking after, the suckers would get the mastery, and render the beautiful-looking "trees" worse-looking than if they were allowed to take their natural forms. As it is, however, no one, that I know of, has ever yet said a single word against such gardening, or such standards.

I could never believe that the criticism on the "fly flappers" was meant as against standard plants *in general*; but, rather, on account of their being shown to the public before they had time to assume the "standard measure." And yet another side of that question might be taken as a liberal, and very bold stroke, to show to the world, that such and such plants were already "on the stocks," and that thus the public might gain a few years by taking the early hint from these maiden plants. Be that as it may, however, the country is now "in for it;" and the country party must have standards of every plant which can be fashioned into a stem and head for that purpose; perhaps, because "they are so in character with the regular style of laying out gardens." Well, if it be worth while to have them, it will be surely worth while to get them up in an unexceptionable style, if that be possible; and sure enough it is possible to have a thousand standards without a sucker to any one of them, no matter what the kinds may be.

The question was brought before me forcibly, in the Highgate Nursery, the other day, when Mr. Cutbush brought me among his extensive "quarters" of Sweet Bay. The long, flexible, well-ripened shoots on his Bay stools, he is going to have layered this spring on the principle of no suckers. There is no saying how soon he may set about this layering, or whether his layers are all for standards or for bush plants, which will never throw up a sucker either way. If he can but warrant them not to do so, the plants will be worth just twice as much as others, which will choke themselves with suckers in a few years. I never saw but one really handsome plant of the Sweet Bay, till I saw the French standards of them: and that one was at Holly Mount, Great Malvern, when the Duchess of Kent and Princess Victoria lived there; and that plant produced heaps of black berries every year, which ripened in October. That was a female Bay, therefore; but whether the common Bays, which one sees everywhere, are male or female, is more than I can tell. But Mr. Cutbush has both, and one of them is a great deal better-looking than the other; and of the "bettermost" sort he intends to make the best standards forthwith. His plan is very ingenious; but you could hardly believe how easy it is, without a proper explanation of it. Here it is, therefore, and my authority, such as it is, to vouch for the safe and perfect success of the mode and manner of its make and management.

The shoot to be layered, must be the growth of the previous season, and no more; the stronger and the more lengthy it is, the more roots it will make, and the sooner it will become a standard, fit to be seen at a Chiswick Show. It is to be tongued exactly as they tongue Carnation layers, with this difference, that the tongue on the Bay shoot, as on most hard-wooded plants, must be on the upper side of it; whereas the Carnation tongue is always made on the under side, because the shoot of a Carnation is soft and pliable, and will not break, or crack, or splinter, from being "turned double," as one might say, in the laying; but a tongue made on the under side of a woody branch would cause it to split, or break right short at the bend where it is layered: therefore, the tongue is made on the upper side. And when the shoot is quite bent, the man draws the top part of the shoot towards himself, and that causes the tongue to "sheer off" to the opposite side, where it is fixed by a hook stuck down just at the bend of the layer; a handful of sand put round the tongue and bend facilitates the push of the young roots when they come, and also shortens the time of their coming. All this, or to this point, is in the old way, and the best way for all manner of layers, if they are woody. The new principle to be

added to this, comes from the very depth of scientific knowledge—a depth which is too great for heavy weights and light fanciers to get out of, or dive into; but it is revealed at that depth, that no bud can be permanent, unless it is rooted in the first season's growth: but that is as nothing, compared to the influence of the second year's growth; for it is common to all buds to appear on the first season's growth. The roots of the buds, or the sucking part, whatever we may call it, gets into the wood of the second season's growth; and no ingenuity of man or woman will ever be able to eradicate these roots from that wood, or from the wood which follows, year by year. Another curious thing is, that buds are endowed like weeds; some of them will come from the smallest morsel of the root, like a Bindweed or Dock. The buds of the Sweet Bay are of this nature; and if they get their roots into the second season's wood, they can never be wholly eradicated: and at any stage or age of the plant, the roots are there on the surface of the wood, ready to send out new shoots and buds, if the part above them be cut off.

The buds of the Grape Vine, and some other buds, with which we have nothing to do at present, do not possess that quality in their roots; at least, not to the same degree. We can root them out, as we do Plantain roots from the lawn; and they never come, or throw out another bud or shoot there, if we cut the Vine down to that place, on purpose to try their power. Now, if we can take up a weed before its roots run about into the soil, it will never come again; and if we can take out a bud, or twenty buds, before they run their roots into the weed, buds or shoots can never come from that wood, more than weeds from the ground without roots or seeds getting into it; therefore, by taking out the buds round a shoot which is to be layered, we are always safe and free from suckers, whatever the kind of plant may be, provided the shoot for layering is no more than one season's growth, as bud-roots never *extend or mix* in that growth, as they do in all the succeeding growths to a thousand generations. Mr. Cutbush is going to avail himself of this principle: he will cut out a few buds, just below and above the tongued part, so as to have no buds buried in the ground with that part of the layer. He will not disbud the whole shoot, as if he were clearing up for a standard at once: that might delay, instead of hastening the process.

Let us now suppose that his layers are rooted to the number of one thousand, and that they are planted out in rows in a newly-trenched quarter, which was heavily manured; and that none of them had buds under ground, nor within a couple of inches of it. All we can say is, that not one of them will ever make a sucker: therefore, they must make very handsome bushes, and come to market in one half the time they would require if they were constantly struggling; which would take the lead from suckers in their usual way. But out of the one thousand, a good many may be fit to be trained at once into standards; and so they will, and at any time within the next three or four years. The strongest of the rest may be cut back to the last two or three buds next the ground; and with the strength of the now-greater number of roots, one of these three buds will start and make a ramrod-like shoot, in one growth, or one season's growth; and that is the right kind of stem for a fashionable standard; any height from thirty inches to five or six feet cannot come amiss. The Currant standards, which Mr. Fish saw at Shrubland Park, were made after this last method; and all Currant standards, or standards of Gooseberries, had better be made that way. Also, many kinds of shrubs will pay best to be done in the same way; but great numbers may be had with sufficient stem the first season. If a strong, ill-shaped, or straggling bush, too much in the way of Laurustinus, be cut down to the surface of the ground, it may make a splendid, or a very handsome bush, before next September, besides furnishing half a dozen of most beautiful standards; and by taking a leaf out of Mr. Cutbush's book, these need never give the smallest trouble with suckers, for they need never produce one. Indeed, it would be worth all the trouble to cut down a handsome Laurustinus, on purpose to prove this very experiment on roots and suckers; and if that be determined upon, this is the proper way to go to work:—

The Laurustinus should be cut down by the first of April; and may be so cut any day from the middle of February. I should say, indeed, the sooner the better; but not a leaf or twig of it should then be left. If a portion of it is to be left uncut, the first of May is the best time. In the summer, if the startlings, or stronger shoots, be too close together, thin them out; and when they are from twelve to eighteen inches long, prepare to have them rooted, and rooting as they go along, and to be fit to be removed next autumn. That preparation consists, merely, in picking off a few of the bottom leaves and their buds. There is no need to layer very young shoots of Laurustinus, to get them soon rooted in June and July; if they only touch the ground, or the ground touches them, they will root into it as freely as the runner of a Strawberry plant. Therefore, it is just as easy to get foundations for most beautiful Laurustinus standards in one summer, as to get Strawberry plants for forcing next spring; or if we estimate by the care required, or by the actual expense incurred, I vouch for it, that a Strawberry, that is, one Strawberry plant in a number 32-pot, costs as much money, time and care, as one rooted Laurustinus, with a stem four feet long, and as clean and straight as a gun-barrel should be on the 12th of August, and which will never throw up a single sucker from the roots; and, therefore, may be planted out to shift for itself, or to be trimmed into a most symetrical form for a regular standard, to bloom all winter about the front of the house, or near the drawing-room windows, or anywhere in sight, and to stand with many others, in military precision along the straight lines of the flower garden or pleasure ground.

I have gone through all this process long, long ago, with many kinds, and I can speak positively to the point; but, as I said before, the botheration from underground suckers did not occur to me, till I met it face to face, in practice; but knowing the practical objections to suckers, I would just as soon throw the best standard plant in London in the midst of a bonfire, for the royal wedding, as take it gratis, and carriage paid, to the Experimental. But what I wish to gain over by this candid admission, is the head and face of every young gardener in the country; if so be that they, of that age, take heed to my report.

One would think that a young shoot or sucker from a Lilac bush, would root as easily as one of the same age of the Laurustinus; that is, if soil or damp moss were placed round it, and kept moist through June and July: but such is not the case. You may earth up a dozen of them from the same stool, which, by the way, is the best plan to adopt with all suckers, which will not root without being layered, and not two out of the lot will you find rooted at the end of the season. Therefore, after disbudding the parts which are to be moulded up for rooting, the Lilac, the Snowball Guelder Rose, the Deutzia, and a host of other such plants, will need to have their young shoots ringed, near the bottom; or, what is equally effective, to push the sharp point of a knife right through the

middle of each of them, where the ring should be made, or where it was most convenient to have them rooted. Then, if the slit which is thus made, be kept open a little, by a bit of stick thrust through it, like the knife, the edges of the slit will throw out a beard of roots all round; and standards of such plants can be had without layering. All the kinds of Lilacs make beautiful standards; so does the Guelder Rose, and many more of our deciduous shrubs.

Common Laurels make better imitations of Orange trees than any other plant in England: but I have only seen one really well-made standard of the common Laurel. It was made just as Mr. Cutbush is going to do with his Bay standards; but if an old common Laurel be cut down, the shoots from the stool will make roots the first season without layering. The best way with it, is to make a comfortable notch where the buds are taken out. The roots come freely from round these notches; but every one may try new plans of his own, and some better way will turn up. D. BEATON.

HIGH VEGETABLE CULTURE.

I NEED scarcely direct attention to the fact, that there is a vast difference, in regard of both utility and appearance, between a highly-cultivated kitchen garden, and one that is neglected, or badly cultivated. This difference is, if possible, more obvious in winter than in summer; for during the latter, the almost certain luxuriance of the larger crops, as Peas, Beans, &c., with the profusion of things of various kinds, so attract the eye, as to decoy it from detecting a bad system of culture. Winter, however, is a very different test; the months of December and January, perhaps, best prove the amount of sound, practical knowledge possessed by the cultivator.

During these months we desire to find our kitchen gardens rich in all things pertaining to the needs of the winter dining-table. In the first place, there is the Brassica family, now popularly called Cabbageworts. What a rich variety is here presented to our view,—tracing them from the "Ragged Jack," or Lapland Kale, through all the grades of Green Kale, Savoys, Brussels Sprouts, and on through the true Cabbages, Broccolis, &c., up to the prince of this family, the time-honoured Cauliflower! What family of vegetables can compare with them? Well, then, we have Winter Spinach—a thing despised by ordinary persons, as of no account; but not so with our professed cooks, who will pull a long face, if told in January there is no Spinach for them. But I had almost forgotten to name the Coleworts of Covent Garden notoriety. They are but one form of Cabbage 'tis true, but such a form as is indispensable. There are, of course, many other out-door things, which go to make a complete kitchen garden; and amongst these I may just point to the Salads, such as Celery, Endive, Lettuce, Radishes, and the Cresses. But after these opening remarks, I would fain draw attention to a few of the chief points in cultural matters; for it is not merely the name on the paper of the seed, but the mode by which it is cultivated, that crowns the whole with success.

The fact, that old kitchen gardens get tired of some kinds of vegetables, is notorious, especially the Cabbagewort section. With regard, then, to out-door vegetables, let me first point to the renovation of the soil by deep digging or trenching. This I have long proved to be the most renovating process within the reach of the vegetable cultivator. Of course I do not advocate the bringing up coarse clay or gravel to the surface; but I have found, that with the exception of these, most other subsoils may be progressively brought to the surface with much benefit; provided not too great a bulk is brought up at once. I can only observe, in reference to this procedure, that I have succeeded in perfectly renovating our very old kitchen garden, by such means. A score years since I could plant nothing of the Cabbage kind, with any degree of success; they were quite distorted with the club-root, and, of course, bad materials for the cook. Now, by a long persistence in deep digging, we have a vegetable garden and crops, scarcely second to any.

Whilst noting these matters, I must beg to refer to Asparagus, as a preparer or renewer of the soil. It is our practice here, to provide forced Asparagus constantly, from the end of November until April. I, therefore, force annually two beds, of fifty yards each in length. These beds, contrary to the usual practice, are in their prime after about three years standing in the beds. We have, up to this time (the middle of January), sent in first-rate Asparagus, about three times per week, and it is as fine as that from summer-beds—may be eaten to the very stump. Now, what I would especially direct attention to, in this matter, is the policy of this mode of culture, which in ordinary phraseology is, I believe, "killing two birds," if not three. The points I refer to are these:—In the first place, as I plant two of these long beds annually, as an exact equivalent for what I force, a large plot of ground is obliged to be annually trenched for this purpose alone. And when the Asparagus is taken up for forcing, only observe what a valuable plot of ground comes to hand for especial purposes. I find that the Asparagus culture, which is high, leaves the land in such condition, so mellowed, so deepened, and so powerful, that it may be cropped heavily for two years, if not a particle of manure were added. But this is not all; the ground has been much deepened by the course of culture. We find that the Asparagus penetrates quite a yard in depth; and in taking up its deep roots, we bring up each time an inch or two of the subsoil, which here, at least, as I know by experience, constitutes, in the main, the renewal or freshening of the soil, to which I before adverted. I do not expect that every one, however experienced, will at once fall in with these views. It is sometimes very difficult to fall in with even what may appear at first glimpse very good practice; and no wonder. Every good gardener of experience has an established course of practice; and although such might possibly be improved, and the practiser quite aware of such fact, he feels plainly, that it is by no means expedient to be ever shifting his practice, which he finds to work safely, and to constitute what may be termed a system; the parts of which, taken in connection, like the wheels of a piece of mechanism, fit admirably into each other.

I may here name, again, how this Asparagus ground is prepared, for this forms part of the system. The year previous it is occupied with Celery, in beds nearly six feet wide, each bed making an Asparagus bed. The Celery ground is well manured and deeply dug, and thus is ready-made for the Asparagus. Here is no rest, no fallow, but each crop is made a preparer for future crops; and not only that, but the whole tending to an enduring renovation of the soil. I need say little more. To have fine and tender forced Asparagus constantly, through a long winter, is an accommodation not dreamed of some years since; and one that will be well appreciated by those readers of THE COTTAGE GARDENER, who think with myself, that of all the dainties in the vegetable way, that add to the delights of the winter's dinner, Asparagus holds about the first place, if truly good.

And here I would endeavour to disabuse the mind of those not well experienced in sound gardening, from

the impression, that all losses, or deteriorations, in garden crops can be readily corrected by an application from the midden. In my course of practice, I have met with numerous cases of vegetable failure, in which all the dunghills in the kingdom would have been of no avail. Now, I would have this fact strongly impressed on the minds of all beginners. I was, of course, once in their position; and forgetting, or underrating, the immense utility of inorganic matter, I verily thought to accomplish everything by the aid of manures. After many trials, however, I saw the fallacy: and, lest any one should cast the imputation on me that I underrate the dunghill, let me at once affirm that I can be as loud in its praises as the best of them; but I must have a legitimate object for the application of manures, which must at times be done with a *liberal* hand.

But, a misapplication of manures, when involving at once a waste of precious material and a derangement of the functions of the crops, ends in both disappointment and waste. When, however, we come to what I may term the gluttonous class of vegetables, such as Celery, Asparagus, &c.—things not easily injured by manure; seldom tired of their plot, if well manured; not liable to club like Cabbageworts; and not apt to any particular disease—then the muckheap is all-important, and it is not easy to offend them.

But, there are more things still in the high cultivation of vegetables to which I must point before I close my remarks. One of the chief of these is the planning, on a practical basis, good rotation: for, although any given kind of vegetables may be repeated on a given space, the verdict in favour of rotations has obtained acceptance with most of our first-rate gardeners; and, I believe, a similar class of men amongst our farmers would coincide with them. In addition, then, to periodical deep-digging, well-conceived rotations hold an important place. The chief maxims of these, as practically known at the present day, are few and simple. Let us try to reduce them to their simplest form, as avoiding scientific deductions for the present; not because we would exclude the scientific bearing of the subject by any means, for this must one day, when a little farther advanced, prove the crowning point of the whole.

As maxims, then, surely we may urge that no crop liable to a given class of grubs, maggots, or caterpillars, be succeeded by one of similar liabilities—that one liable to those obscure characters, the Fungi, should not be succeeded by a kind similarly liable—that deep-rooted crops should not be succeeded by deep-rooters—and that, as much as possible, things possessing close affinities be avoided as successionals.

Finally, let me recommend a liberal use of the hoe during the growing season, stirring the soil deeply: not only high culture, but cleanliness is involved in this process. To this may be added the application of liquid manure to gross-feeding vegetables, such as Asparagus, Cauliflowers, Celery, and Lettuce. The occasional application of lime would prove of very considerable benefit in old and highly-manured kitchen gardens; but I fear not many can avail themselves of it.

R. ERRINGTON.

WORSLEY HALL.

THE SEAT OF THE EARL OF ELLESMERE.

(*Continued from page* 247.)

ON looking over my notes I find one or two items on the gardens that I did not mention in my former communication. One was the mode practised there now of pruning the Gooseberry. There is, at the base of each yearly shoot, a cluster of wood-buds. In too many instances all the young wood is cut down to these buds when the bushes are pruned: the consequence is, the buds push out, and the bush is filled with fruitless shoots, exhausting the tree, and shading the fruit from the sun. In this manner these bushes had been pruned: and it was only when the trees were so weakened, and such wood-shoots were so small, that the fruit was tolerable in quantity and quality. The roots, however, had then got down to the wet clay; and then frequently large branches, and sometimes entire trees, died even in full leaf. I noted that this season the greater part of such wood-shoots were cut off close to the old wood, and the remainder left at full length. The consequence will be, most certainly, that these young shoots will bear fruit nearly their entire length; and, what is of more consequence, will produce next summer a quantity of real fruit-spurs. I have said *certainly* this will be the case, for I have proved it repeatedly; and I earnestly intreat every cultivator of this useful fruit to try this plan; and I will give him leave to set me down as a gardener of no experience if he be not perfectly satisfied with the result. The Red and White Currant require closer pruning; for these buds at the base of each young shoot are fruitful, as well as the others that are higher up the young shoot. Hence I found here the pruning done accordingly.

I confess, in the case of the Black Currant, I was never satisfied as to the best mode of pruning. The only plan that I could follow, to please me, was to thin out the shoots, and shorten-in those left, to about two thirds of their length: and that is the method Mr. Davis adopts, and, indeed, most other gardeners, in places confessedly well managed.

The Gooseberries here are becoming so old, and die off so much in the manner I have mentioned, that a new plantation has been made this season. Instead of planting them, as is usually done, on borders next the walks, a large quarter has been devoted to them entirely: and, not to lose the space between the trees, —necessarily large whilst they are young—a row of the best kinds of Strawberries has been planted, which will, of course, be cleared away when the Gooseberry bushes require the whole space.

Asparagus has been cultivated here, to say the least of it, in a very singular manner. When a new plantation or crop was desirable, the ground was manured and dug, levelled, and the seed thrown on broadcast; that is, neither in rows nor beds. In that way it was allowed to grow and produce heads, just as it happened. Every gardener will understand how such a plan would answer. It certainly saved the trouble of making beds: but how the ground was to be cleared, or the heads gathered without injuring the plants, I cannot conceive. I noticed a new plantation on a totally different principle. The plants are in double rows, about a foot apart, and spaces of six feet between. I could see that they had been planted; and from the old stems I could see also that the plants had been very strong. I do consider this plan the best of any I have seen yet; far superior to the old bed system; more easily kept in order; and the vegetable more easily gathered when ready. It is the plan followed by many market gardeners throughout the country. The old plantations will be gradually worked out by taking up portions for forcing till the new ones are in full bearing.

Having seen and noted all the above particulars, we (that is, Mr. Davis and myself,) left the garden by a walk through the ancient wood mentioned in my last. The venerable trees stand at a considerable distance from each other, forming that collection of trees we understand by the word *grove*. This walk leads up to the mansion. On each side under the trees there is a

good collection of evergreens, such as Hollies, Portugal Laurels, evergreen Oaks, Rhododendrons, Laurustinus, &c. As soon as the Grove was passed, we came upon the lawn; and on it I noted a large number of *Araucaria imbricata*. I was sorry to see they were not thriving well: many of them had their lower shoots killed; and on other branches the leaves were evidently dead and dying. The gardener pointed out to me some others that had been planted amongst Rhododendrons and other evergreens, the leaves and branches of which were as green as a Leek, and as healthy as possible, showing that in their young stage shelter from the wind was needful. They had been planted on the lawn on the level, and in such a subsoil that was very injudicious. Rhododendrons here thrive most remarkably well, without any other than the common soil; owing, no doubt, to the moist climate of this part of Lancashire. They are of a dark healthy green, and covered with flowering buds. Just on the brow of the hill I noted a fine collection of Thorns, which, I was assured, were very beautiful when in bloom.

To the left, just after passing these Thorns, I saw what, I confess, somewhat startled me—a large two-light frame set on a hillock on the lawn, directly facing the west windows of the Hall. I supposed it contained some bedding-out plants, as I thought, sadly out of place. We went up to it, and the light was lifted up. I then saw I had erred egregiously:—it was a shelter for a tolerable specimen of the famous *Wellingtonia gigantea*. A label declared that this new and wondrous tree had been planted by our gracious Queen Victoria during her stay at Worsley Hall last July: and at a short distance from it I was shown a young English Oak, which, the label declared, had been planted on the same day by Her Royal Highness, the Princess Royal.

From these two interesting plants we wended our way up a flight of steps, on to the highest terrace, close to the mansion. This terrace is very spacious, extending right and left of the house. At each end is a scroll-flower, laid out by Nesfield in his peculiar style. The terrace is bounded by a wall and balustrade; from that the ground falls rapidly down to the lakes. Since Mr. Davis undertook the command of the gardens, this ground has been formed into a second terrace of about three acres' extent; and it is laid out in the geometrical style. Seen at this time of the year, the form of every bed is distinctly seen. I was informed the plan of it was taken out of some old French publication. There are some very handsome, large, and lofty vases, placed at regular intervals on this new terrace, which, when filled with plants, must have a very fine effect. The old balustrade conceals this fine new terrace parterre from the lower windows; but it is to be taken down and placed at the bottom of the first new slope: it will be then out of sight. When it is removed, and the flowers in the beds are in full beauty, the view will be very beautiful.

I was much gratified with this part of the domain; and hope at some time to be favoured with a plan of the new flower garden, which is very dissimilar to any other that I have seen. Mr. Davis very kindly invited me to visit the place again during the summer. He said the place was by no means exclusive; the noble Earl had no objection to any respectable person, properly attended, seeing the place.

T. Appleby.

NOTES FOR FEBRUARY.

The season has now arrived when the routine duties of gardening will require careful and immediate performance. In the open ground, seeds of vegetables, as well as of flowers, should be got in as expeditiously as possible, provided the weather continues dry, and the ground is in good order: if wet, it will not do to trample it too much. When such is the case, some few seeds of early crops may be forwarded under cover, to be transplanted at a more favourable opportunity. To judge from the present and past very mild winter weather, we may expect this month to be favourable for sowing and planting early spring crops; therefore, we would advise to sow a succession crop of *Peas* and *Broad Beans*; and, for a regular succession, as soon as one crop appears above ground, another should be sown, until the middle of May. Sow *Radishes*; Early York *Cabbage*; *Lettuce*; *Brussels Sprouts*, for early planting; and a pan of *Celery*, for early use; *Parsnips*; a few *Onions*; *Parsley*; and a few early *Turnips*. Plant Ash-leaved, Kidney, or any other early sort of *Potatoes*, on a warm border; and spread the other sorts, for future planting, thinly on shelves, or on a dry floor, where they will have sufficient space to swell their buds in a healthy and vigorous manner. Some of the *Cauliflower* plants, that had been potted in the autumn, may now be turned out of their pots in some sheltered situation.

Preparations for *grafting* should be made, by looking out for proper scions in good time, and inserting the larger ends in the ground until wanted for grafting next month, when the sap in the stock will be in more active circulation.

The pruning and nailing of *Peach*, *Nectarine*, and *Apricot* trees, if postponed to the present time, should be now finished without delay; and preparations made for protecting from early spring frosts, the blossoms, even before they expand. The pruning of *Raspberries*, *Gooseberries*, and *Currants*, should also be finished.

Advantage should be taken of *frosty weather*, whenever it occurs, to fork over the frozen portion of the ridged or trenched ground and compost heaps; by which they are made more mellow, and the larvæ of grubs are destroyed.

Any alterations in the *flower garden* may now be carried out; as also the sowing of hardy annuals in beds or borders. The following are sorts of a permanent character, and are suitable for an agreeable combination of colours in flower-garden scenery:—*Eschscholtzia crocea*, blue-branching *Larkspur*, scarlet *Intermediate Stock*, *Phlox Drummondii*, *Eutoca viscida*, dwarf dark *French Marigold*, and white and purple *Candytuft*. Half-hardy annuals to be sown in pots, and protected from inclement weather; and when two or three inches long, to be transplanted in pots, and placed where they will receive an abundance of air, and protected until all danger of frost is over, when they may be transplanted where they are intended to bloom. Tender annuals, such as *Balsams*, *Cocks'-combs*, *Globe Amaranths*, &c., may now also be sown in pots, to be plunged in a hotbed, or in some warm place; and when they are up, and have attained one or two proper leaves, they should be pricked out into the smallest pots in two-thirds light, rich loam, and one-third leaf mould, or rotten dung; to be shifted into larger-sized pots as they advance in growth. A little seed of *Lobelia gracilis*, or *L. ramosa*, sown now, will make a pretty blue edging for beds, or rustic baskets. If old roots of *Salvia patens* are not at hand from which to procure a stock of cuttings, the seed of that beautiful blue Salvia—a colour so very scarce for bedding-out purposes—should now be sown.

Alpine plants in pots should be looked over and top-dressed with fresh soil; and, if an increase be desired, they may be divided into pieces, repotted, and returned again to the same quarter in the pit or frame. Auriculas to be top-dressed with fresh compost, and all dead and decaying leaves removed. Carnations, Piccotees, and Pinks in pots, to be looked over frequently. The surface, if sodden, green, or compact, to be stirred up, and kept moderately dry.

Plants in *pits and frames* will require careful attention, that they may not be exposed to cold cutting winds, nor allowed to be closely shut up during sunshine; but the lights to be opened on that side least exposed, to prevent the cold air from acting injuriously on the foliage of the plants. *Ranunculuses* to be planted in rows six inches apart, about four inches from root to root, and to be covered with three inches of soil.

The planting of *Pinks*, *Wallflowers*, *Arabis*, *Alyssum*, *Aubretia*, and all such things, so useful and ornamental as spring flowers, should now be finished in favourable weather.

Although the state of the weather in some seasons may justify the description given of this month "so full of frost, and storm, and cloudiness;" nevertheless, the face of February is frequently brightened with sunshine, when air may be freely admitted to invigorate the plants in the greenhouse; and when a little weak manure water may be given once a week to *Cytisuses*, *Pelargoniums*, *Azaleas*, *Cinerarias*, *Cyclamens*, and all other such plants of early growth. A slight syringing occasionally, on bright mornings, will have a beneficial effect upon Pelargoniums, and other small-leaved plants: to be discontinued when the blooms have expanded. *Cinerarias*, herbaceous *Calceolarias*, and such succulent and large-leaved plants, are apt to damp off if syringed or watered too freely overhead. Some will now want shifting into larger pots. *Fuchsias*, *Heliotropes*, *Verbenas*, *Petunias*, *Dahlias*, &c., to be started into growth, if an increase and a liberal supply be wanted for bedding-out purposes. Any *Heaths* that require fresh potting, or fresh soil applied to the surface, to be supplied, if robust growing sorts, with equal parts of sandy heath soil and loam, with good drainage. And for such kinds as *E. Hartnelli*, *Massoni*, *Archeriana*, *Aitonia*, *elegans*, and *aristata*, very sandy heath soil and a small portion of light loam are suitable, with a good drainage of broken potsherds, covered with a little moss, to prevent the soil from mixing with the drainage and choking it.

What are called *New Holland plants* also delight in good fibrous heath soil, in a rough state, with a good sprinkling of silver sand, and plenty of drainage. But, particular attention must be given to their watering, as they are more liable to suffer from mismanagement in that particular, than from the nature of the soil. The plants should be examined every morning, and water given only to such as are dry. Plants going out of bloom, such as *Epacrises*, *Camellias*, *Pimeleas*, &c., will require less water than when in bloom, and to be pruned back to form compact heads. The creepers to be kept pretty closely pruned and neatly tied. *Cobœa scandens*, *Lophospermums*, *Maurandyas*, *Rhodochitons*, and *Tropæolum Caroline*, are now deserving of attention, to be increased by cuttings or from seed. The Tropæolum is most useful for arbours, fancy trellis work, or any such places, where luxuriant growth, fine foliage, and bright flowers are desired.

William Keane.

CULTIVATION OF EARLY POTATOES.

PRIZE ESSAY.

By the Rev. E. F. Manby.

(*Continued from p.* 249.)

And now we come to the setting. The Potatoes are carefully taken up from their sprouting-places, and placed in small baskets with a bow handle. Those which have more than one good, strong sprout, are generally cut *length*-ways—never *cross*-ways. Some never cut them at all, but rub off the second sprout, which is, we are inclined to think, the best plan. The baskets are then carried to the field: these baskets contain about 20lbs.; and, therefore, can be moved about with ease, and are committed to the care of the setter—generally a boy of about fourteen years of age.

The labourer with the spade—or "*shooler*," as he is called—commences his work, by throwing out a furrow about two inches deep. It is not necessary for him to use his foot—the mere action of the arm, with a peculiar shove, is quite sufficient to enable him to extract the soil. The width of the furrow is, of course, the same as that of the spade. Then the setter follows the shooler, and places the sets, *i.e.*, sprouted tubers, about twelve inches apart on the bottom of the furrow. As soon as the setter has got five or six yards down the furrow, No. 2 shooler commences with his spade to cover the sets which the boy has planted; and, by so doing, he prepares a bed or furrow for the next setter. One active boy will keep at work too shoolers: but it as well to provide a boy for each man; for, if he has—as he ought to have—time to spare, he may be employed in forking the head-lands, or in fetching more Potatoes. And in case the land should not have been previously manured, then the setter has to put in the guano, and other artificial manure, as well as to set. Care, however, must be taken that the seed be not placed in the guano, but above it.

The distance between the rows will be about fourteen inches. The labourers, in this neighbourhood, are so accustomed to this kind of work that they can, without looking behind them, go as straight as a line; indeed they never use a line. They take great pains in forming the first furrow; and, by keeping their eye upon the edge of the furrow nearest to them, which forms of itself a natural line, they draw the next parallel.

A man will "shool" about one-eighth of an acre per diem. We have known men accomplish a quarter of an acre; but this is excessive, and we are inclined to think, that the quantity first mentioned, is nearest the average quantity of work.

About a fortnight after the land is set, a small light harrow is drawn over the ground, when the land is dry, to kill or check the springing weed. We do not ourselves approve of this plan; for, though it, no doubt, checks the young weed, we are of opinion that the teeth of the harrow break off many young sprouts. This implement is called a Potato harrow, and is made for the express purpose. The teeth are of iron, set in wood, and about three inches in length; it is very light, and drawn by a man, as a horse or pony would break the sprouts.

After this operation, the land is let alone until the plants may be distinguished in the row, then *flat*-hoeing commences. In fine dry weather once will suffice; but, should the weather be showery, or rain fall immediately, twice or thrice will be necessary.

When the land is clean, "moulding" may be commenced. It was the custom to do this with the hoe, hence the terms of *flat*-hoeing, and "hoeing-*up*;" but of late, a small iron plough, with moulding-boards, has been introduced by a resident gentleman, and this has now become generally adopted. The plough is drawn by a man and boy, another man holding the stilts. The quantity of ground they will go over in a day, far exceeds what they could accomplish with the hoe.

And here, may be seen, the necessity of having the rows at equal distances; for, though the mould-board might certainly be adjusted to an inch or two, wider or narrower, yet this would involve an unavoidable delay at the end of each row. And we all know, that when three men stop, it requires some little time to set them a-going again; there is some remark to be made which, somehow, cannot be made on the move; some sentiment to be expressed, which would probably lose its point *en passant*; at any rate, there is a difficulty in effecting a fresh start, and much time is lost. Now, the best time for performing this operation, is either early in the morning or late in the evening, say before eight A.M., or after six P.M., for then the plants have drawn up their leaves, and they escape injury: whereas, if they were moulded up during the heat of the day, the rootlets would be scorched, and the plant droop.

Four weeks or so after the moulding, the crop (we are now speaking of *Lemon Kidneys*), will be ready for lifting; and, though they would doubtless increase rapidly in weight, if permitted to remain a fortnight longer, yet, if the prices be high, say about 2*s.* 6*d.* per score, they will never pay better. The first symptom of the crop being ready, is the curling of the lower leaves; after these turn *yellow*, the tuber will not increase much in weight. In lifting, or "getting up," as it is here called, the fork with three prongs is used. One man with a fork is attended by three boys: the first to shake the mould and Potatoes off; the second, to pick up the large ones; and the third, the small ones. The latter are sold at half-price, the former packed up in hampers, and barrels, and forwarded to different markets.

As soon as the land is cleared, it is ploughed and prepared for sowing Turnips, or transplanting Swedes and Mangold Wurtzel. A second manuring is the exception, and not the rule.

We now come to another important point. We have spoken of the preparation of the land; we have now to speak of the preparation of the seed. In order to insure success, and command high prices, the seed must be *sprouted*, *i.e.* it must have made an advancement in growth of at least an inch. This sprout should be strong and well-developed, its thickness about that of the stem of a common tobacco-pipe, and its top crowned with green buds just bursting into leaf; at the bottom of the sprout are emitted, or in the course of

emission, small threadlike roots, which, as soon as planted, take possession of the soil. Here is the grand secret of obtaining *early* Potatoes.

To acquire this stage of advancement, many expedients are resorted to. It is the natural habit of the *Lemon Kidney* to sprout early; indeed, oftentimes there is a difficulty in retarding this movement, for if the sprout is too long, it runs great risk of being knocked off in course of setting. The mode here adopted by the cottagers, is no less original than ludicrous. After Christmas, the seed is taken out of store, whether from "pits," or "graves," or elsewhere. The Potatoes are then brought into their houses, and placed under their beds. When these recesses are filled, they fill small baskets, of same kind and dimensions as those from which the seed is planted, and hang them up on hooks to the ceiling of their apartment down stairs, to obtain the advantage of the warmth of the fire; and thus proceed to fill every possible place where they may be kept from the frosts. If a man possesses a cowhouse or stable, the rafters are forthwith adorned with hooks, and the little baskets suspended. The breath of cows is very beneficial. Care, however, must be taken that the sprouts do not become blanched and weak: they must have plenty of light.

One of the largest cultivators in this district has improved upon the cottagers' plan; and has converted the hay-lofts over his horses and cows into "sprouting-rooms." Above these lofts, he has laid a second floor, so that he is enabled to sprout double the quantity. The warmth arising from the cattle has been proved to be quite sufficient to keep out the frost.

The tubers should not be placed thicker than two inches deep, or the roots would become one mass of sod.

Unless, then, some other mode be devised, or sprouting-houses be purposely erected, there will remain the difficulty—the impossibility, we had almost said—of any one grower setting as large a quantity of early as of late Potatoes.

And again, as we before observed, the period of cultivation is so short, and the work to be done in that time so pressing, that it would require an incredible number of hands, and of hands probably totally unaccustomed to this kind of work. At the time of setting, you would require a man and a boy per acre; then there would be a cessation from labour for about a fortnight or so, until the time for moulding up; and, when this was finished, there would be another interregnum until they were ready for getting up. Three shoolers will keep a pair of horses preparing the land for them.

In "dropping" weather, the hoe must be kept constantly at work. The ground that has been gone over one day must be gone over again the next. You must keep a-head of the weeds, and pace with the growing crop.

"But why not cultivate them," some one may say, "in the same way as the late varieties?" We cannot afford to do so; the land is too valuable. Were the "winter" plan adopted, we should only be able to obtain one-third of the number of rows per acre, and consequently would lose one-third of the value.

We before mentioned that, in the cultivation of the seed for the following year, all plants showing flower, as well as all others which manifest a diversity of leaf, are carefully eradicated. From the field, the seed is taken to the barn, spread on the floor about one foot thick, and kept in the dark. Here they are suffered to remain for a month, when, if no disease appear, they are removed, and may be considered safe. At least this is the plan we would recommend, and which has been proved to be most successful; for we have known Potatoes, when brought from the field, to have been just tilted up on the barn-floor; and have observed that in these large heaps symptoms of disease have appeared, whilst none have been detected amongst those which have been spread. We presume it was owing to the sweat not being permitted to escape, and dry as readily as when laid in smaller heaps.

After Christmas is turned, the Potatoes are brought out of the "hogs," or "graves," or "pits"—all of which are provincial terms for the same mode of covering them with straw and earth—and are laid for "sprouting." We cannot refrain here from expressing an opinion, that it would be desirable to extend this sprouting to all the late varieties. Amongst *Lemon Kidneys* we never hear of disease, at least amongst those which are got up for the markets in July. Some slight traces may be found in August; whilst those lifted in September, and October, have been much affected. And the same observation may be made with respect to *Red Eyes;* the crop taken up in August has been found and kept sound, whilst in those taken up later, there has been considerable loss. We are, therefore, induced to think that, if the winter varieties were set well sprouted, they would run much less risk, and a great saving of food be effected. We have no business to take up *Lemon Kidneys* in September, and October; but the cottagers will risk it, and they set for seed after they have got up and sold their first crops. They calculate that they shall lose one half by disease; and, if they only preserve the remaining half, they obtain a more valuable crop than by sowing or transplanting any other vegetable. The great objection to sprouting is the expense, and want of convenience: the former is very trifling, and the latter is generally at hand. Any cattle-shed would answer the purpose; a few rough slabs to form a floor above the cattle, whereon to spread the Potatoes, would be quite sufficient. So long as you can keep up the temperature above freezing-point, they will not suffer; and this the breath of the cattle would effect.

With regard to protecting the young plants from frost, little here is, at present, done. A few borders in sheltered places are covered with straw screens; posts are driven into the ground, on which are nailed strips of wood to support the screen. Some few use calico instead of straw; they are handier and much lighter to lift off and on, but they are difficult to manage in a high wind. We have seen a much better plan. A friend of ours has contrived a kind of sheet, or sail, made of calico, which will furl and unfurl *ad libitum.* It is attached by rings to wires, fastened to poles driven into the ground; and upon these wires, it is made to run up and down by means of a cord and pulley. This plan has been proved to be efficient to repel this spring's frosts, which have been unusually severe; and therefore, there is little doubt, but that the experiment will be enlarged upon.

In conclusion, we must caution our readers against the purchase of seed. We had almost said a Potato is frequently not a Potato; but we may safely say a *Kidney* is not necessarily a *Lemon Kidney.* Of *Kidney* Potatoes, there is an endless variety: there are the *Short-top*, the *Rough-top*, the *Yorkshire*, or *Winter Kidney*, the *Walnut-leaf*, and the *Ash-leaf*, &c. And the worst of the matter is, that if you order a load of *Early Kidney Potatoes* you will, in all probability, get *all* the varieties. Of course, there are exceptions to this rule; but we speak generally, and, what is more, we speak from experience. Even here, where the best and the earliest varieties are grown, it is very difficult to obtain good and unmixed seed. In fact, you must see them growing; and, when you see them growing, you must have the eye to discover whether they all have the same kind of leaf, and habit of growth, and equal absence of flower.

Here, all early Potatoes are included under the general term, *Lemon Kidneys*, as in other places, they are denominated *Ash-leaves.* But amongst these, "Forrart uns," as they call them, there are many varieties. Some have a broad, round, shiny leaf; this is the true *Lemon Kidney;* some have narrow, pointed leaves; others small, curly leaves; whilst a fourth exhibit a small, rough, round leaf. We should, therefore, recommend such as are anxious to cultivate the true *Lemon*, to obtain a small quantity of the genuine kind, and rear their own seed, if they would avoid the disappointment of a mixture.

It is only reasonable to conclude, that if you have a mixed lot, some will be ready to be lifted, whilst others are only just forming their tubers; so that you must either let them stand till the latter are ready, by which means you lose the advantage of an early market, or you must get them up as they are, and sacrifice the late ones: either way involves a loss.

The growers who possess genuine seed are loth to part with it; to obtain a few stones' weight at a high price is considered a favour. If you can obtain some at 1*s.* 6*d.* per stone, you may consider yourself very fortunate; we have known as much as 2*s.* 6*d.* asked and given.

In cultivating the *late* varieties, we would strongly recommend the adoption of sprouting, which we believe to be, if not a panacea, yet one of the best of the few remedies hitherto prescribed. Set the *Red Eye* and *Fluke* when the land is in *fine* order; wait, if necessary, until as late even as the end of April or the beginning of May. Set them well sprouted, and you will be astonished at the rapidity and luxuriance of their

growth. In the first place you insure a plant, you have no misses, no blind eyes, but up they come regular and equal, like a well-disciplined regiment of soldiers, every one in its place. They will be ready for "getting up" full a month before others set in the ordinary way; and, when the annual complaint arises that the disease has again appeared, you will have taken up your crop in a good state of preservation.

We prefer getting them before they have attained a state of maturity, rather than run the risk of obtaining greater weight by allowing them to remain longer in the ground to ripen. The tubers will not be quite so large, but they will be sound; and, if the cultivator were to calculate the almost endless expense of turning over his store and picking out the diseased ones, he would find himself a considerable gainer in securing a crop of sound middle-sized Potatoes.

Last year, both *Red Eyes* and *Flukes* were taken up before they were ripe: the skins were abrazed; and when brought home from the field they presented a ragged and bruised appearance, anything but sightly: but, in the course of a month or so, this unsightliness disappeared, the tubers recovered, and became quite mature; when eaten they proved excellent. Many who saw them at first exclaimed that they were spoilt. "What a pity it was, &c.; they would be good neither for eating nor for seed." But these very Potatoes kept sound and good, not one went bad, and the last were eaten after Easter.

Doubtless there exists a great obstacle to the large cultivator in the way of "sprouting." How can he sprout seed for thirty or forty acres? We must confess that there is a difficulty; yet, with a little contrivance, by making use of the cattle-sheds and outbuildings, which we may suppose such an occupier to possess, he might sprout sufficient for several acres; and when he found the advantage of so doing, he might add to his contrivances.

But there are hundreds of small cultivators who would have no difficulty at all in the matter. Let the man who now grows his half-acre for his own family consumption—and how many such there are!—try the sprouting system, and we are persuaded that the saving of food would be something enormous. It may be considered audacious to say so; but we cannot but look upon the Potato disease as one of the strongest incentives to greater industry and energy on the part of the cultivator; and should the end of the affliction amount to almost a compulsion to obtain two crops a-year instead of one, we shall have no cause of complaint, but feel thankful to Him who can mercifully bring good out of evil.—*Morecombe*, 1857.

AMYGDALUS PERSICA: Double Crimson Peach, from China.

Received from Mr. Fortune, as a "Peach, flowers double red."

This is a semi-double variety of the Peach, with dark crimson flowers, and quite hardy. It is a very fine and handsome plant.

This plant has presented the peculiarity of producing very generally more than one fruit to each flower, as in the annexed cut, where, out of three flowers, one has two young Peaches, and another three. In the case of the double fruit, each half remained separate; in the other, two had grown together: and if they had ripened, a double-headed cluster would have been produced. Similar cases have been seen; but it is a novelty to have a plant in which there is a natural predisposition to produce anomalous appearances of such a kind.—(*Horticultural Society's Journal.*)

Amygdalus Persica.

HISTORY OF FUCHSIA RICCARTONII—HYACINTHS.

I have much pleasure in replying to Mr. Beaton's communication (page 223), even before the *daft days* are over (*nae doot* Mr. B. speaks feelingly on the subject), which are reckoned to terminate somewhere about old Hansel-Monday; but such merry-makings are easier got over now-a-days than at the period when Mr. B. was a resident of Modern Athens, thanks to education for this improvement; and the greater facilities which are offered to the inhabitants for instruction, combined with amusement at such times, have also tended to ameliorate the condition of the people, in this respect, more than the stringency of the law has ever effected, or is ever likely to do.

Riccarton is about five miles and a half due west of Edinburgh. Two railways, two turnpike-roads, and one canal, pass through the estate, all, more or less, direct from Edinburgh to Glasgow. It is certain that no gardener named Watson has lived here for the last fourscore years at least. Mr. John Cunningham was gardener for sixty years, but only nominally so; for sixteen or eighteen years of the latter part of this time the garden was under the superintendence of Mr. John Young, now gardener at Archerfield and Dirleton, East Lothian. It is to the latter-named gentleman that the honour of raising the *Fuchsia Riccartonii* belongs; the history of which is soon told. Mr. Young received the seeds from Mr. Brakenbridge, then gardener to Dr. Neile, Cannon Mills Cottage, Edinburgh, who, about that time, left for an appointment abroad. Its parentage is not known.

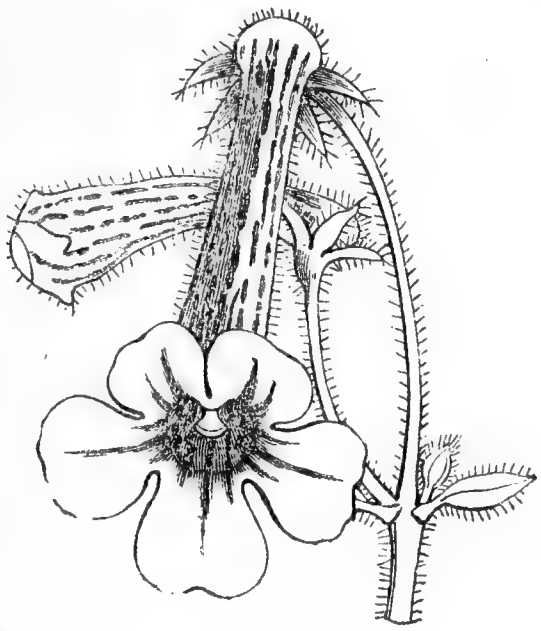
Now, about the Hyacinth affair. I can only say that I have officiated as one of the Judges at all (but one) of the principal Hyacinth Shows in Edinburgh for the last ten or twelve years, and I never saw an improper use made of moss in dressing their forced Hyacinths for competition: but it is quite true that they dress the surface of the pots with moss; and, as might be expected, some of the stands are more tastefully

done than others. Some of the great London growers of Hyacinths competed in Edinburgh in March last. How did they stand with the growers in Scotland? If my memory serves me right, *they stood dux at the wrong end.* In their case, perhaps, a little *moss* might have been not a bad thing.

There was a Mr. Robt. Watson, gardener at Moredun, for many years, who died about eight or ten years ago. Moredun is three miles south of Edinburgh, on the Dalkeith road. Is this not the place Mr. Beaton had the pleasure of calling at in the year 1828? There is a fine Holly-hedge there; as also at Colinton House, and Haile's House, all near Edinburgh, which I shall take the first opportunity of looking at, and report.—WM. BAXTER.

ACHIMENES ATROSANGUINEA.

PRESENTED by Messrs. Knight and Perry, under the above name.



This is a beautiful species, with the habit of *A. Skinneri*, but with slender flowers nearly an inch and a half long, with a yellow tube spotted with dull purple, and a vivid scarlet limb as bright as that of *Mimulus cardinalis.*

It is perfectly distinct from all other hitherto described, and ranks amongst the handsomest.—(*Horticultural Society's Journal.*)

PLANTING POTATOES.

I SEE in No. 483, page 201, a few remarks on planting the Potato, which, according to my estimation, are far below the standard, unless "The Doctor's Boy" is favoured with a far lighter soil than myself. He says there are three ways of planting here (Worcester):—"First, by trenching the sets in as the ground is dug; and, according to my experience, this is the best way of planting, be the ground in whatever state it may. The other and the most general way is to put them in with the hoe after the manner of planting peas or wheat. And the last by the dibble, an instrument that I have not seen for years, and never appreciated."

Now, my plan of planting the Potato is very simple and very easy, both in planting and earthing-up. Generally, I pick out my ground in the autumn, that is to be Potatoed the ensuing year. That ground I get vacant as early as circumstances will permit, and throw it up roughly into two-feet ridges; and there it lies till I think proper to put in my Potatoes. The putting-in is very easily performed by laying the sets in between the ridges; then, with the hoe or the spade, chopping down the sides of the ridges. Then, between the rows, about half of each ridge is left standing, exposed to the March winds and the sun. Just about the time the Potato shows its head above ground, there is generally a very good crop of seedling weeds. I then give them a flat hoeing. This flat hoeing has a double advantage in this system of planting the Potato. It destroys all weeds, and moves the remaining portion of the ridge; and there it lies crumbling till I catch a fine dry day, and my Potatoes have a good stout head. Then the process of moulding-up comes: and how pleasant it is when you go amongst them, and see your compost crumbling, to what it would be if it were so much hard-bake; which would be the case in our soil, if planted as our Worcester friend suggests.

I have tried all ways of planting the Potato, for I have grown them largely for the last fifteen years in my present situation; but I have found none to succeed so well as the one I have just mentioned. If any of your numerous readers will tell me of a more easy method, and a more suitable one to the tubers, I shall be happy to try it.—T. WINDSOR, *Gardener to C. Cannon, Esq., Kidderpore Hall, Hampstead.*

THE DUKE OF DEVONSHIRE.

THE London Horticultural Society is now without the two officials who ought to be most instrumental to its good. Last week, we recorded the death of its Secretary, Dr. Royle; and now we have to chronicle the death of its President, the Duke of Devonshire. His Grace died at his seat, Hardwick Hall, Derbyshire, on the 17th instant; and the grave could not close over a more liberal man. Gardening has especially lost a loving and munificent patron; and his ever-ready expenditure to promote its objects, has largely tended to promote its progress. The gardens at Chatsworth, would be enough to produce as evidence, on this point; but, when in addition, we can enumerate as his country residences—Chiswick, in Middlesex; Hardwick Hall, in Derbyshire; Bolton Abbey, in Yorkshire; and Lismore Castle, in the county of Waterford; and observe that at all his annual expenditure was most liberal, no further comment need be added. We hear, on good authority, that his Grace expended £1000 weekly at Lismore alone. He was elected President of the Horticultural Society in 1838, on the death of its first President, T. A. Knight, Esq. If he had done no more for gardening than to have given Sir Joseph Paxton opportunities for developing his abilities, he would have conferred on it an obligation permanent and worthy of general acknowledgement. A statue should be erected in Chiswick gardens to his memory.

FEEDING BEES—BEE BOXES—BEE FLOWERS.

ALTHOUGH the season of last year was one of the finest possible for bees; yet, in consequence of the very mild weather in November, December, and January, as far as it is gone, bee-keepers will do well to examine their stocks; and see, or *feel*, whether there is sufficient honey to keep the bees until May.

Mr. Neighbour's boxes are getting very much into use, and they form a very ornamental adjunct to the bee garden; every gentleman, who can afford it, ought to have one at least—I mean every real apiarian. But it would be desirable if a box of a much cheaper construction could be invented to suit the cottager, or the middle-class man, all over the country.

In a list of bee flowers, which I sent to the Editor about five years ago, I omitted the *Salvia nemoralis* (not *nemorosa*, as it is called by some)—that beautiful puce-coloured spiry flower, which, when in blossom, is covered with bees, and lasts for two or three months. It has been advertised in THE COTTAGE GARDENER (in October last), for sale.—H. W. NEWMAN.

KEEPING PEARS.—I only received the December part of your most valuable Magazine last Saturday, or I should have addressed you sooner regarding an article in No. 479, headed, "Keeping Pears;" wherein the writer mentions, as a matter of regret, that the *Napoléon*, *Marie Louise*, and some other Pears, ripen about one time, and seldom last through November, or, at least, to the middle of the next month. Now, I have just eaten a *Napoléon* Pear as sound and as firm as the day it was pulled, only much more mellow; and in my fruit-room there are a few more dozens of the same, which, from their present appearance, might keep for another month at least.—WM. INGLIS, *Kirkmay House, Fifeshire.*

THE CHRISTMAS WEATHER AT NORWICH.

Perhaps the weather at Christmas, just passed, was the most remarkable on record for mildness—not only in this part of the country, but throughout Britain. We may have known it as mild at this season; but the most remarkable feature was the absence of frost, which usually occurs about the middle or the end of October, and puts an end to the gaiety of our flowers. Instead of empty flower-beds, or withered stems, our gardens have been, more or less, furnished with flowers, even *exotics* in bloom, until they were checked by the frost on "New Year's-day." This rare fact is so well known, that we need hardly mention it, nor name the various plants that were in bloom; for they range from the common Daisy to the tender Ageratum of Mexico, and scarlet Geraniums from the "Cape." There were, likewise, straggling Potato stems about one foot high; which were amongst the first to feel the effects of frost. We mention this, in order to notice that the Potato seems to be as tender as it was when first introduced; and that this is contrary to the rather too-easily-received theory of tender plants becoming acclimated. This, however, is apart from our subject; and what we have said has more reference to plants that were previously in blossom, than to those which were at *rest* during the early part of the winter. The mild weather had little influence on these, except such as usually blossom in fine autumns; even the Christmas Rose, with us, was hardly before its time; we have probably seen it as forward amongst the snow. Nor had it any influence on the yellow Aconite and Snowdrops, the earliest of spring flowers. We have the same to say concerning the buds of fruit trees: and though there were instances of Raspberries being ripe at Christmas, these were only the last of the crops of autumn kinds.

There were abundance of Haws, Acorns, and berries supplying food for birds, which is vulgarly supposed to prognosticate a severe winter: but this has not been realised yet; and on Christmas-day the thermometer stood at 52°, at two o'clock, in the shade. Then we observed gnats dancing in the sun-beams, hive-bees, large flies, and smaller insects abroad; and we caught a fine specimen of the harmless reptile, the slowworm, basking in the sun, while listening to the song of the thrush, and of various smaller birds, mingled with the plaintive cooing of the wood-pigeon. The shrill notes of the partridge brought to mind reminiscences of boyhood, proving how much we are governed by early impressions, and influenced by associations.—J. Wighton.

QUERIES AND ANSWERS.

FIG TREES AND THEIR SUCKERS.

"In the gardens here, there are two fine Fig trees, apparently twenty-five or thirty years old; large and luxuriant in growth; both growing in the open air, and against a south wall. One, a very large green and black (or brown), fruit; the other, green and white. They produce a great deal of fruit; but not many ripen—perhaps not more than two or three dozen on each tree; and many of these are partly eaten by bees or birds before they are ripe. We were told by a friend, who had spent some time in Kent, that '*there* the suckers, which arise from the roots of the Fig trees, are never cut away, or removed; and in due course become as fruit-yielding as the parent tree.' Acting on this advice, we have allowed the suckers to have their own way the last three years, and there was much fruit formed on them; but very little indeed came to perfection. At this time they are covered with young Figs; but I begin to think that the quantity of leaves and young wood tells against the perfecting and ripening of the fruit. Should we remove all the suckers, or thin them out? If they are to be removed, when is the right time to do it? Should the earth be drawn away, so as to take them off as closely as possible to the roots? or will it do to cut them just at, or below, the surface?"—W. C., *Black Rock, near Dublin.*

[Here is another illustration of doctoring by rule of thumb. The treatment of Fig trees, which succeeds in Kent, or Kelso, may ruin another Fig tree in the next parish, or county; or even in the same garden, or orchard. The Fig tree, among fruit trees, is like the Cactus among pot plants; and, as compared with other trees, it should be treated as a common—the commonest—window Cactus. From the tale of the "friend, who spent some time in Kent," it would appear that the Kentish treatment of Figs is of the very best; as, no matter when or how the trees begin to make suckers, those suckers "in due course become as fruit-yielding as the parent tree;" therefore, the more suckers, the more Figs. But to allow suckers on Fig trees, in Dublin or Dundee, the trees ought to be in the same condition as these Kentish trees. Suckers come from two causes; but say, from three causes—*habit* being the third cause. The Raspberry gives a good idea of suckers coming, because it is the nature of the plant to produce them; but on other fruit trees suckers come—first, from over-luxuriance in the roots; and secondly, because the head of the tree is so far hide-bound, or stinted, that the supply of sap, from the most ordinary style of roots, cannot find outlets to take it so fast as it comes from the roots; it, therefore, bursts at the bottom into suckers. And if the roots are very strong, or too strong, for that particular tree, the suckers will soon make them much stronger, and soon cause barrenness, from over-luxuriance. That is exactly the stage into which these trees, near Dublin, are now entering: in a few more years they will produce no fruit. Such as it is, the roots are too strong by far; and the system of allowing the suckers, increases the strength year by year. The Kentish trees, referred to by the said "friend," had their roots barely strong enough to nourish the trees and the crops; but they were propagated in the slovenly school, from which all suckers take their rise; and, therefore, they, too, must throw up suckers, if only to show the school. But the roots do not answer to this extra demand; and the suckers in due course become as fruitful as the stunted parent tree. Unless a Fig tree is in very stunted growth, it will not produce good fruit; and when it is in that state, suckers are not only not unwelcome, but often a benefit, to cover the lower and naked branches of the old tree; which covering "in due course" will be as fruitful as the extremities of the old framework of the tree. The rule by which to know if it is right to leave suckers on a Fig tree is this, and it will hold good from Dublin to Damascus. When the young growth of the current season, *beyond the middle of the large branches*, is more than six inches long at Michaelmas, it is most dangerous to allow one sucker to remain next year. When that growth is not over four inches long, you may try the effect of three or four suckers; but unless they turn fruitful in "due course," or in the second season, depend upon it, the roots are too strong yet for suckers, and you must remove the whole of them—not by pulling them up, or twisting them about, or by hacking them with a spade, or pick; but get carefully under them, and then begin, *from below*, with a strong pruning chisel and mallet, and cut them off with an inch of the old bark all round them; so that no more of them can ever come from the very same parts. Besides that unsuckering, next April the Dublin Figs ought to have *two-thirds* of the largest roots cut back, close to where they come from. In the drawing sent, the suckers appear to cover the lower half of the wall, like a huge Raspberry bank: therefore, two-thirds of the roots are not too much to take away, to begin with. The soil is too good, too free, and too deep, for them, and the three must be reduced to one-third sooner or later; but for the next year or two, the loss of suckers and roots may be sufficient. Fig trees, however, should not be able to make one sucker in a generation, no matter how strong the roots might be; nor would they, if the cuttings were disbudded like Gooseberry cuttings. They should be nursed in very generous soil, and not allowed to fruit for the first four years. After that they should be merely kept alive, and no more; but annual lifting is better than very poor soil, or root-pruning.]

HARDINESS OF CHAMÆROPS EXCELSA.

"May I beg the favour of your informing me whether the *Chamærops excelsa* (Fortune's hardy Palm), is really hardy or not? A few remarks on its soil, treatment, and habit of growth, also, would much oblige."—Caroline.

[The Chusan Palm, or Fortune's hardy Palm (*Chamærops excelsa*), has not yet been killed, or hurt, out of doors by

frost round London; but how far north it may bear our British climate we are not quite sure. It will flourish in the same soil, and under the same treatment as the Yucca; and both like a deep friable, or open porous soil, on a dry bottom, and a south sunny aspect, free from cutting winds; but any soil that will do for Scarlet Geraniums, or for Barley, will do for this Palm on a dry bottom. If the roots are coiled in the pot, do not plant the ball entire, but shake all the earth from the roots, and spread them like the roots of any large tree; and if the hole is eighteen inches or twenty inches deep, and wide enough to take a barrowful of fresh sandy loam—that will be enough for the first year or two. We never recommend large spaces to be made at first for any permanent plants—not even for Grapes. Every border, bed, or pit, for permanent plants, should begin on a small scale, and be increased every year, or every other season, till the tree, or plant, or climbers are past nursing. At that rate there is always *a fresh compost* for the roots to run into, which is the grand secret of all such gardening. We have just received the schedule of a new Horticultural Society for Ross-shire, in the north of Scotland, from the Secretary, Mr. Smith of Dingwall. And as we know something of every family, and every place mentioned in the schedule; also, as we are going to mention some of these places shortly, and to recommend the Society; and wish it success; we mean to lay several of the members under contribution for THE COTTAGE GARDENER; and we shall begin with this question—Is the *Chamærops excelsa* at Braham Castle, or at Cannon House? or has it been planted out there? If so, how does it do? Again, are the deep, broad edgings of the blue *Gentiana* yet in the kitchen garden at Cannon House? or the old hedges of the common *Berberis* on the home-farm of Braham Castle; that is, on the way to the Castle from Dingwall?]

MELON HOUSE.

"I am about erecting a Melon house, a lean-to, with a south aspect, twenty-four feet long, by ten feet wide. It is to be heated by hot water. I want to know, what sized pipes you would recommend, and what sized boiler? I think of putting a flow and return pipe on the front, right under the Melon bed, which I intend to be five feet wide; then a two-feet path; then a three-feet bed at the back, to grow a few Cucumbers. Would there be sufficient heat in the back bed without running the flue under it? If there should be sufficient heat in the house with the pipes, I should like to put a shed at the back of the house, to serve as a Mushroom place. I thought of it being six feet wide, four feet next to the house for the Mushroom bed, then a two-feet path; and I wanted to run the flue under the path, and place a few iron gratings here and there, along the path, for the heat to rise through."—A CONSTANT READER.

[For such a house, though we can hardly judge correctly, as you do not say its height, we suspect you will want four four-inch pipes, a flow and a return, for top heat; and a flow and a return, for bottom heat. This, by means of a cistern or stops, will enable you to give top heat and bottom heat separately. If you did not care about this, but resolved to have all your pit in heat at once, the simplest mode would be, to have two pipes on the level, as flues, for top heat; and these to return under the bed, for bottom heat. According to your proposal, you will not have bottom heat in your back bed sufficient for early forcing, without a heating medium beneath. You might take one pipe up the one, and back the other. If you contemplated forcing early, you would need two three-inch pipes under each bed. We disapprove of your growing Melons in front, and Cucumbers behind. Better place the Cucumbers at one end; they like moisture at roots, and in the air all the summer, and what would suit them, would give you Melons little better than Turnips. A two-feet path is rather narrow. See what has been said in late volumes, as to contracting root action; three feet and a half would be quite wide enough for Melons, and then you might have both sides alike; or, supposing your bed is five feet, you may bank a part of it off. The Melons and Cucumbers planted in the front, would soon cover all the roof if you wished. If you did not place a pipe below the back bed, it would do for a later crop. It might also be a nice platform for growing any plants that required heat. Any small boiler would do, such as Thompson's, Weeks' smallest, or a conical or saddle back. Get one with a large surface to the fire, in proportion to the water it holds. You may do as you say respecting the Mushroom house; cover the flue with strong tiles, and it may form the pathway. See that the atmosphere is not too dried.

We prefer the the latter end of October, for transplanting large Laurels.]

PRESERVING VINES CULTIVATED IN POTS.

"I have several small houses, one of which is now given up to Vines in pots. My intention is not to destroy my Vines, but to rest them every alternate year; and I see no reason why, under this treatment, the Vines should not be as good twenty years hence as they are now: or, indeed, better, provided, of course, that they are not too heavily cropped, and that fresh soil is given to them every year. I mean to have two sets of Vines: one at work, while the other is at rest. Be so good as to let me have your opinion of this scheme."—W. C.

[There is nothing that we see to prevent your succeeding, unless there might be a misunderstanding as to the words, "rest them every alternate year." We presume that you mean to *grow*, instead of *rest* them one year, and fruit them the next. This just brings us back to the gist of the whole matter of growing Vines in pots as generally managed, namely, growing one year, and fruiting the next; whilst, in established Vines, the growing and producing go on simultaneously. The question of using young Vines and older Vines is chiefly a matter of convenience and of taste, if the Vines have not been over-cropped. This so frequently is the case, when Vines are grown in pots, that cultivators generally prefer young Vines to retaining the old ones. Were it not for this over-cropping, there is no reason why a Vine in a pot, of good strength, should not produce fruit every year, either by fresh potting, or, rather, by liberal fresh surfacings, and manure waterings. The limited quantity of fruit left vigour for wood, and that would be fruitful. When a moderate crop is taken, say from four to six good bunches from a pot some fifteen inches in diameter, there will be no great amount of vigour left for wood for next year. As our correspondent suggests, we have tried such plants again by growing them the following year, and then fruiting them in the succeeding one; and we tried two methods. By the first, we cut down the plant to the lowest bud in the autumn, after the leaves had all fallen; plunged the pot in decayed leaves; placed it in a mild heat in February; and, when the buds were swelling, shook the old soil from the roots, and repotted in rich fibry loam that had been well aired, watered with warm water, and set all growing with a mild bottom heat. Others had the pot examined as to drainage in the autumn; no disrooting or shaking away the soil, but as much of the surface soil as could be removed without hurting the roots taken away, and the place supplied with fresh, rich fibry soil; kept in a place sheltered from frost during winter, and started again, like the rest, in February; and, if any difference at all, these last made rather the best rods, with the largest, plumpest buds: but there was little difference between them. By the second method, we left the old fruit-bearing stem; cut every shoot back to the bud nearest the old stem; treated the plants differently, by the two modes mentioned above. Still finding that the pots that had not the earth shaken from the roots, did, if anything, rather the best; we, during the summer, allowed each of these spurs to produce a shoot some ten or twelve joints long before stopping it; and using it all the summer, with the intention of cutting back to a bud or two in autumn, in order to get fruitful shoots from these the next year. On the whole, costing more trouble, these did no better than those cut down, and grown to a single rod. To show that, if very moderately cropped, such Vines would be continuously fruitful, it may be mentioned, that several thus spurred back to make wood only, showed plenty of fruit for a crop. In the case of Vines in pots that bore heavily, say from six to twelve bunches, it was found that they seldom showed at all the following year, if spurred in; and that, whatever mode was adopted for growing them without fruit, for one summer, they seldom did anything so well—as well-ripened young Vines struck from buds inserted in bottom heat at the end of December, and shifted

and re-shifted as often as they needed it, until they had filled large pots with roots, and had ripened their wood by the beginning of September. We tried several other experiments, such as leaving the old stems—when growing on this succession system; picking out all the buds on it, except one or two at the base; and only removing the disbudded stem when the young shoot from its base was growing vigorously; and the stem itself became dried up. The benefit received from such a course might be more imaginary than real; and the thorough investigation of such a subject might easily lead us into questions beyond our full comprehension. There can be no question, that Vines in pots, well managed, and very moderately cropped, may produce every year. When cropped moderately, or a little extra moderately, there will be little difficulty in getting the same plants to fruit one season, and produce wood the next, for fruiting the third season. And when very heavily cropped, our impression is, that young plants grown vigorously, with all the necessary adjuncts of bottom heat, &c., will beat the old ones. The growing of Vines in pots is chiefly to be looked upon as auxiliary, when mere profit is concerned; but when grown on from buds, there are few matters of practice more absorbingly interesting.]

WINTER-FLOWERING FUCHSIAS.

"You will very much oblige a 'Subscriber' by naming a third winter-flowering Fuchsia. I have the *Serratifolia* and *Dominiana* now coming into bloom; and I am aware there is another, the name of which I have forgotten. I am surprised that florists do not cultivate more than they do this valuable addition to cool conservatories during January, February, and March. My *Linum trigynums* are in full beauty, and are very showy at this season, and are easily propagated by cuttings."—L. J., *Woolley*.

[*Pendulina* and *Serratifolia multiflora* are two kinds which you may add to your stock of winter-flowering Fuchsias. But why require others to raise winter-flowering Fuchsias, when all might raise them for themselves from the right stock, as we have pointed out more than once in former volumes? Get the old *Fuchsia cordifolia* with what you have; and next spring procure a flowering plant of *Fuchsia Coralina*, and cross them both ways. The best of the seedlings breed in-and-in with the winter-flowering kinds again. Then the second generation work both ways again, with *Coralina* only. Keep on so till there is no more room for winter flowerers than for the summer ones. Nothing, in crossing plants, is more easy than to get a most complete family of winter-flowering Fuchsias: and the reason why we do not have them is simply because there is no demand for them, or such a demand as would "pay" for the trouble. There is no need for "surprise:" the florists seldom miss a hit that would pay. You have only just to go and do it; and it will be done as quietly and as quickly as raising a crop of seedling Potatoes on Mr. Appleby's plan. By-the-by, we raised about one hundred seedlings for our clergyman, from a packet of Potato seeds he had from Germany in 1854; and every one of them is alike, or the kind came quite true from seeds. Every one of them took the disease in 1856 and 1857; but they are a splendid mealy lot.]

GLASS FOR LATE VINERY.

"Is sheet glass, or Hartley's patent glass, the best for keeping Grapes under until March?"—A. B., *Prescot*.

[We should have very little preference in the matter; though, for mere keeping, we would select Hartley's, as there would be less danger of the berries being alternately heated and cooled.]

Grapes from Espalier Vines.—I omitted in my last communication to state, that, amongst other peculiarities of the past season, I gathered 23lbs. of ripe Grapes, free from mildew, or any disease, from three Espalier Vines in the open border of the kitchen garden, which I have never before been able to do. Before the frost set in, a few days since, several persons in this neighbourhood gathered a number of ripe Raspberries; and the Strawberries, and other plants, were unusually in bloom. Such a mild autumn and commencement of winter no one seems to remember.—T. M. W., *Bishop's Waltham, Hants*.

TO CORRESPONDENTS.

Labels for a Pinetum (*C. P. C.*).—We should make them of galvanised iron only, cut into the shape of a T, and of such a size as to enable us to write very legibly the name, native place, and date of planting, with black paint. The white colour of the metal would render the letters conspicuous. The shank of the label should be long, to allow it to be fixed firmly in the ground, and yet to hold the inscribed part well above the soil out of the way of rain-splashes.

Garden Plan (*G. J. H.*).—We never furnish plans, nor give directions for altering them; and we have said so repeatedly. No one can do so with any chance of giving satisfaction, unless he is on the spot. All that we undertake to do, is to point out palpable errors in plans intended to be adopted.

Names of Plants (*E. A. C.*).—No. 1 is not an indigenous plant. It is the small-flowered Claytonia, *Claytonia perfoliata*, a native of North America. It is an annual; and when once established, is as difficult to eradicate as our own native Chickweed, and, like it, from autumn-sown seeds. It is one of the earliest to flower in the spring. Its strange-looking, green, little, perfoliate leaves might be used for Spinach in the spring months. No. 2 is certainly the true common Watercress, *Nasturtium officinale*. It sometimes happens that the tops of the common Water Parsnip may get plucked by persons who are unacquainted with the difference. The common Watercress varies very much in size and form; and when growing very rampant, it very much resembles this common Water Parsnip, the *Sium angustifolium*, and *Sium nudiflorum*; which plants are more or less poisonous, as are all of the Water Parsnips. No. 3 is the *Alisma natans*, a very suitable plant for an aquarium; and so are *Alisma ranunculoides*, and *Actinocarpus Damasonium*. (*A Subscriber*).—Your plants are as follows:—*Mentha gentilis*, of Withering. The Polygonum is the *P. Fagopyrum*, or, as it is now called by some, *Fagopyrum esculentum*, or the Buck Wheat. The Marsh plant is the *Triglochin maritima*. The two Chenopodium-like plants are *Atriplex angustifolia*, and *Atriplex patula*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Tecbay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

February 10th and 11th. Ulverstone. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

February 25th, 26th, and 27th. Hereford. *Sec.*, Mr. Thomas Birch, Hereford.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

LIVERPOOL POULTRY SHOW.

January 20th—22nd.

It would seem that, by a sort of understanding, the winners of the previous season make this their trysting place, and meet to try their last conclusions.

This Show is peculiarly adapted for it. With only a limited space, and with accommodation only for a very small number of pens, the Committee fix a high entrance fee, and invite the *élite* of the poultry world to meet.

This year will also be memorable as the beginning of a new class, viz., a sweepstakes for a number of birds entered at £1 each. It was confined to *Game Cocks*. Those who are at all acquainted with this Show, know that it is held at Lucas's Repository, which is well adapted for the purpose; being light, and well ventilated.

Before we enter on any account of the birds in the different classes, we must speak of the noble prizes offered in the new class. The entrance money was thus divided:—one prize of £40, one of £20, one of £15, one of £10, and three of £5. The three principal prizes were tankards of unusual size and beauty: the lid of each being surmounted with the best executed models of Game cocks in silver that we have ever seen. It has been too much the habit to represent in engravings of poultry such fowls as were never seen at any exhibition—and never existed. For instance, we lately saw some samples of Cups for a Poultry Show in the north of England, whereon figured a cock with such comb and gills as we should have thought fabulous, had we not a recollection of a breed shown some years since, and called Anconas. It seems to us that if a fowl is to be represented, it should not only be like one, but like a pleasing specimen. Messrs. Moss and Worrall, seeing that the prizes were to be awarded to Game fowls, supplied the drawing from which the models were made, and nothing could be more successful. It was natural that those who gained them should be pleased with them; but they were not less admired by those who failed

to secure them. The other prizes were cups, inkstands, sugar-vase, &c., all of the full value of the money awarded.

As this class was the greatest novelty, we will treat of it first. It is needless to say that all the best birds in England were here, and that the country was ransacked to find winners. It was a singular sight: the whole of one side of the building was devoted to them. And as we gazed upon them—high-couraged and highly-conditioned birds of every shade—we were at no loss to account for the love of our forefathers for this breed. There is another peculiarity belonging to it; and that is, that at all times and places, these birds are shown in perfect condition. We do not, however, mean to say that all are alike in this respect; and in the sifting to which this class was exposed in being judged, it fared ill with those that were in any respect faulty. Perfection was required: and many a bird that had never before met his superior was here obliged to strike his colours. Black-breasted Reds were more numerous than any others; but there were excellent Red-breasted, and some beautiful Duckwings. Among the varieties produced by this new class, we may mention a Game cock with large protruding feathers on each side of the face, forming, as it were, whiskers; and another with wings so accurately barred and laced, that they excited the envy of many a Spangled Hamburgh breeder.

The prizes kept in the north-west; six out of the seven remaining in Liverpool and its neighbourhood. The £40 tankard was awarded to Mr. J. Armstrong; the £20 to Capt. Hornby; the £15 to the Hon. W. W. Vernon: all these were to Black-breasted Reds. The £10 to Mr. Armstrong for a beautiful Duckwing. Messrs. Sergencson, Armstrong, and Hindson took a £5 prize each, with two Black-breasted and one Red-breasted Red. Nothing could exceed the beauty and the condition of these birds; every point in them was perfect, and most of them old winners. The £40 prize bird has been several times successful in similar classes of late. From the complete *réussité* of this experiment, we have no doubt the classes will become popular, and that an impetus will be given to Game breeding, which will make it more followed than it is even now.

The next novelty was a class for *Silver Dorkings*. The entries in this were very creditable for a first essay; but we must confess to a slight feeling of disappointment, at seeing so many pens, evidently disqualified by having birds that did not come up to the requirements of the prize list. Thus, while it was distinctly stated thereon, that black tails were *essentially necessary*, many birds were shown with partially white ones, and some with semi-brown patches on the wings and saddles. In this, as in all other things, experience will, doubtless, teach those who called for the class; and it is with that view only, we speak in what might otherwise appear a hypercritical spirit. We will now review this excellent Show, taking the classes as they occur.

The *Spanish* were very good, but we were sorry to see Mr. Botham's pen empty. Miss Rake bore off the principal prize—a piece of plate of ten guineas. Mr. Brundrit was second, and Mr. Moss third. These were all unusually meritorious.

On looking at the next, the question was often asked—What is the limit of size in a Dorking fowl? The Rev. G. Hustler must tell us what his birds weighed. We doubt whether they were as heavy as the second prize of Captain Hornby's, but they were in better condition. The Revds. S. Donne, John Hill, and the Earl of Sefton, also deserve mention, for capital pens. We have already spoken of the Silver Greys; but it will be necessary to mention the prize-takers. They were, Capt. Hornby, cup; Mr. Ullock, and Lord Hill.

We have not for years seen so good a show of adult *Cochins*. They were more than excellent; and Messrs. Ashton, Stretch, and Cattell, may boast with good right. We may echo the assertion, in speaking of the *Grouse*, *Partridge*, and *White* classes. All the Cochins were not only meritorious for size and condition, but they were free from those errors of choice or judgment that often make disqualifications numerous. Certain breeds favour certain Shows. Thus, while *Brahmas* are always numerous at the Crystal Palace, they present but a small list at Birmingham and Liverpool; but nothing can affect the entries in the *Game* classes. Every one you meet in this country, is more or less an amateur, and interested in them. We believe that, if in addition to the class for a hundred Game Cocks, there were others for pullets, and hens only, that still the general classes would fill. Our readers will not, then, be surprised to hear there were ninety-five pens in the different classes; and of these, Black-breasted Reds contributed forty-five. It seemed to afford much pleasure to every one, that Lord Sefton gained the cup for this last breed; and he was followed by a well-known name, Mr. Wright, of Widnes, formerly of Dorking celebrity; but, as some would say, he has descended to Game. Mr. Lowe, of Comberford, was third. Eleven other pens figured in the prize list.

There were some unusually good *White* and *Piles*. The *Duckwings* were, however, superior to them, and drew from the Judges the declaration that they were an excellent class. Nothing could exceed the beauty of the first prize pen of these birds, the property of Mr. Moss. They seemed to tread daintily. Will our readers laugh, if we, who are now tolerably steeled to reporting, draw upon our imagination to describe them. They are of faultless beauty, perfect symmetry, and had an aristocratic bearing and appearance, that entirely gained them the good graces of all who saw them. The cock's head was the perfection of beauty, and might serve as a model; and, although all the birds in the pen were apparently so delicate in their proportions, yet they were hard in feather, and good in hand.

Mr. Worrall's *Golden-pencilled Hamburghs* richly deserved the cup they won; and there were many birds of great beauty in the class. Success must soon become monotonous to Mr. Archer, in *Silver-pencilled*:—for the third time, within these seven weeks, he has taken every prize in the class. Messrs. Cox and Wright showed first-rate birds. Mr. Lane took the cup for *Gold-spangles*, followed by Mr. W. C. Worrall, and Mr. Ruttlidge. Mr. John Robinson showed a most excellent pen of Silver-spangles. There is great improvement in these birds; and the Judges, with a Spartan brevity, differing from their late, "excellent," "marvellous," and "unusually good," appended one note of general application—"all the Hamburgh classes are good." The Polands were, as usual, excellent, but not numerous; and afforded an uninterrupted triumph to Mr. Greenall, followed by Messrs. Bush, Brundrit, Batty, and Ray. The *Various* showed White Dorkings, Black Hamburghs, Malays, Sultans, and Silkies. The prizes went to the two first. We have to repeat here, as elsewhere, that the Game Bantams were far more numerous than any others; they were not more meritorious, for all were very good. Mr. Harvey Dutton Bayley, gained the cup, closely run by Mr. Townley Parker. Mr. W. Worrall showed two hens, which, if matched, bid fair to place him in Bantams, in the place he has occupied so long in Hamburghs. The *Ducks* were unusually good. Mr. Fowler carried off the cup, with a wonderful pen of Aylesburys; they were distinguished among good ones. We have again to petition for a separate class for the *Buenos Ayrean Ducks*. They deserve it, both for numbers and quality. The length of our report, will be our apology for merely mentioning the Single Cock classes. The Spanish were very good, but the Dorking and Cochins were the best we have seen for a long time.

The gentlemen forming the Committee were, as usual, active, obliging, and painstaking. Mr. W. Worrall, in the absence of his brother Secretary, was indefatigable. It is due to Mr. Moss to say that there was one universal expression of sympathy with him in his recent bereavement and illness, and earnest desire for his complete recovery.

Thus closed the comfortable and capital Show of 1858 at Liverpool. May many more such follow it.

There were no divisions into adults and chickens. Birds of any age were admitted into all the classes.

SPANISH.—Cup, Miss M. L. Rake. Second, W. W. Brundrit. Third. J. Armstrong. Highly Commended, J. H. Craigie, Miss M. L. Rake, and J. Busst. Commended, J. Garlick.

DORKINGS (Coloured).—Cup, Rev. G. Hustler. Second, Capt. W. W. Hornby, R.N. Third, Rev. S. Donne. Highly Commended, Rev. S. Donne, Rev. J. Hill, and the Earl of Sefton. Commended, A. Potts. (A very good class.)

DORKINGS (Silver Greys).—Cup, Capt. W. W. Hornby, R.N. Second, T. Ullock. Third, Lord Hill. (Many of the pens in this class were meritorious, but sufficient care had not been taken in selecting them according to instructions.)

COCHIN-CHINA (Cinnamon and Buff).—Cup, R. E. Ashton. Second, T. Stretch. Third, J. Cattell. (An unusually good class.)

COCHIN-CHINA (Brown and Partridge).—Cup and Second, P. Cartwright. Third, H. Tomlinson. Highly Commended, H. Churchill,

P. Cartwright, and J. Hindson. Commended, R. W. Fryer, and Miss V. W. Musgrove. (A very good class.)

COCHIN-CHINA (any other varieties).—First, W. Copple. Second, R. Chase. Highly Commended, J. K. Fowler.

BRAHMA POOTRA.—First and Second, R. Teebay. Highly Commended, J. H. Craigie.

GAME (Black-breasted and other Reds).—Cup, Earl of Sefton. Second, W. Wright. Third, E. Lowe. Highly Commended, Capt. W. W. Hornby, R.N., J. Armstrong, E. Nicholls, Earl of Sefton, and H. Worrall. Commended, W. Cox, I. Hadwen, T. Kay, J. Armstrong, N. M. de Rothschild, and Hon. W. W. Vernon. (A very good class.)

GAME (White and Piles).—First, Messrs. Haigh and Hartley. Second, J. Armstrong. Third, J. Camm.

GAME (Blacks and Brassy-wings, Greys, and Blues).—Cup, J. Armstrong. Second, J. Wright. Third, F. Worrall. Highly Commended, Rev. T. E. Abraham, T. H. D. Bayley, T. W. Pearse, H. Worrall, and Hon. W. W. Vernon. Commended, J. Armstrong, and W. Wright. (An excellent class.)

HAMBURGHS (Golden-pencilled).—Cup, W. C. Worrall. Second, C. R. Titterton. Third, J. Bevan. Commended, Mrs. Parkinson, and W. Pierce.

HAMBURGHS (Silver-pencilled).—Cup, Second, and Third, E. Archer. Commended, W. Cox, and W. Wright.

HAMBURGHS (Golden-spangled).—Cup, W. R. Lane. Second, W. C. Worrall. Third, W. W. Ruttlidge. Highly Commended, M. H. Broadhead, and Miss M. G. Smith. Commended, C. Martin.

HAMBURGHS (Silver-spangled).—Cup, J. Robinson. Second, W. Pierce. Third, R. Teebay. Commended. J. T. Lawrence. (All the Hamburgh classes were good.)

POLANDS (Golden-spangled).—Cup, J. F. Greenall. Second, R. H. Bush. Third, J. F. Greenall. Commended, J. Dixon.

POLANDS (Silver-spangled).—Cup, J. F. Greenall. Second, J. Brundrit. Third, W. Dawson.

POLANDS (Black with White Crests).—Cup, J. F. Greenall. Second, T. Battye. Third, G. Ray. Commended, J. Dixon, and R. P. Williams.

ANY OTHER DISTINCT BREED.—First, J. Robinson (White Dorking). Second, Rev. T. L. Fellowes (Black Hamburghs). Highly Commended, C. Ballance (Malays); and W. Dawson (Sultans). Commended, R. W. Fryer (Buff Polands).

BANTAMS (Gold-laced).—First, Rev. G. S. Master. Second, T. H. D. Bayley. Highly Commended, Messrs. J. and R. Blackburn.

BANTAMS (Silver-laced).—First, Messrs. J. and R. Blackburn. Second, T. H. D. Bayley.

BANTAMS (any other variety).—Cup, T. H. D. Bayley. Second, T. T. Parker. Highly Commended, J. Camm, W. S. Forrest, and Mrs. Parkinson.

DUCKS (Rouen).—First, P. Longton. Second, J. H. Braikenridge. Highly Commended, W. Evans, J. K. Fowler, P. Longton, T. W. Pearse, and E. Worrall.

DUCKS (Aylesbury).—Cup, J. K. Fowler. Second, J. Abbot. Highly Commended, B. Ford. Commended, E. Lister.

DUCKS (any other variety).—First, J. Dixon (Grey Call). Second, J. Bristow (Wild). Highly Commended, J. Bristow (Wild); J. Dixon (Black East Indian).

SINGLE COCKS (Spanish).—Cup, W. W. Brundrit. Second, Miss M. L. Rake. Highly Commended, Mrs. J. C. Hall and R. Teebay.

SINGLE COCKS (Dorkings).—Cup, W. Evans. Second, T. Ullock. Highly Commended, J. H. Braikenridge, Rev. G. Hustler, R. V. Kearney, J. Armstrong, and T. Ullock.

SINGLE COCKS (Cochins).—Cup and Second, T. Stretch. Highly Commended, W. Copple, T. Hincks, W. Lamb, Miss V. W. Musgrove, and R. Sergeneson.

SINGLE COCKS (Pencilled Hamburghs).—Cup, W. C. Worrall. Second, D. Harding.

SINGLE COCKS (Spangled Hamburghs).—Cup and Second, W. C. Worrall.

SINGLE COCKS (Polands).—Cup, J. F. Greenall, Second, J. Brundrit.

ONE HUNDRED GAME COCKS.

Cup, £40, J. Armstrong. Cup, £20, Capt. W. W. Hornby. Cup, £15, Hon. W. W. Vernon. Cup, £10, J. Armstrong. Fifth Cup, £5, R. Sergeneson. Sixth Cup, £5, J. Armstrong. Seventh Cup, £5, J. Hindson. Highly Commended, J. Armstrong, T. Statter, J. Cox, Hon. W. W. Vernon, J. Lowe, N. M. de Rothschild, J. Hindson, E. Lowe, Earl of Sefton, and C. R. Titterton. Commended, W. Copple, H. Rauthmell, and N. M. de Rothschild.

NOTTINGHAM CENTRAL EXHIBITION.

ALTHOUGH held on the same days as the Liverpool, and notwithstanding the magnificent prizes at the latter, the pens of poultry at Nottingham were numerous, being 531; whilst at Liverpool they were 474. At Nottingham there were also of Pigeons, 202 pens; of Canaries, 65 pens; and of Rabbits, 30 pens. Many of the chief poultry breeders exhibited at both Shows.

The following were the prizes awarded. Birds of any age were admitted to all the classes.

SPANISH.—First, J. K. Fowler. Second, G. Botham. Third, J. R. Rodbard. Highly Commended, S. H. Hyde, and H. Marshall. Commended, W. Silverton, Mrs. Parkinson, J. Wright, and J. Shorthose.

DORKINGS (Coloured).—First, Mrs. H. Smith. Second, H. Smith. Third, Rev. G. Hustler. Highly Commended, Right Hon. the Countess of Chesterfield, S. Burn, G. Botham, and Mrs. Sherwin. Commended, J. Hitchman, Right Hon. the Lady Middleton, and H. Smith.

DORKINGS (White).—First, S. Burn. Second, — Lingwood. Third, J. Camm. Highly Commended, E. Turton.

GAME (White and Piles).—First and Third, J. Camm. Second, J. Morley. Commended, J. Parr, and T. W. Jones.

GAME (Black-breasted and other Reds).—First and Second, Master W. Coupe. Third, H. Shield. Highly Commended, W. Dawson, W. Cox, W. H. Swann, J. Camm, H. Adams, and J. Killingley. Commended, W. Ballard, W. Mellows, and J. Brown. (An excellent class.)

GAME (Duckwings and other Greys).—First, J. Wright. Second, H. Adams. Third, J. R. Rodbard. Highly Commended, Right Hon. Lady Middleton, and T. W. Pearse. Commended, F. G. Dutton. (An extraordinary class.)

GAME (Black and Brassy-wing, except Greys).—First, W. Dawson. Second, W. Ballard. Third, J. Morgan.

BRAHMA POOTRA.—First and Third, G. Botham. Second, J. K. Bartrum. Highly Commended, J. Dixon.

HAMBURGHS (Gold-pencilled).—First, H. Marshall. Second, J. Doncaster. Third, C. R. Titterton. Commended, J. Holyland.

HAMBURGHS (Silver-pencilled).—First, J. Doncaster. Second, G. Daft. Third, J. Mitchell. Highly Commended, G. Botham. Commended, J. Hurt.

HAMBURGHS (Gold-spangled).—First, J. Dixon. Second, R. Hawksley, jun. Third, W. R. Lane. Highly Commended, J. K. Bartrum, S. H. Hyde, and G. S. Fox.

HAMBURGHS (Silver-spangled).—First, E. Boswell. Second, Mrs. H. Sharp. Third, J. Mitchell. Highly Commended, J. Dixon, and W. H. Malpas.

MALAY.—First, E. Cross. Second and Third, C. Ballance. (A good class.)

COCHIN-CHINA (Buff).—First, J. K. Fowler. Second, H. Tomlinson. Third, E. Turton. Commended, J. R. Rodbard, Right Hon. Countess of Chesterfield, and P. H. Jones.

COCHIN-CHINA (Brown, Partridge, and Grouse).—First, G. C. Adkins. Second, B. Ford. Third, C. Felton. Highly Commended, J. Bradwell. Commended, R. Hawksley, jun., and R. Benson. (Good class.)

COCHIN-CHINA (Black and White).—First, R. Chase. Second, W. H. Malpas. Third, W. Dawson. Highly Commended, W. H. Malpas.

POLANDS (Black with White Crests).—First, G. C. Adkins. Second, G. S. Fox. Third, J. Dixon. Highly Commended, T. P. Edwards.

POLANDS (Golden-spangled).—First, J. Dixon. Second, H. Churchill. Third, P. H. Jones.

POLANDS (Silver-spangled).—First, G. C. Adkins. Second, Miss S. Perkins. Third, P. H. Jones. Highly Commended, G. C. Adkins, and H. Churchill. (Class very good.)

OTHER BREEDS, INCLUDING GAME BANTAMS.—First, Mrs. H. Sharp (Black Hamburghs). Second, J. Brown (Silks). Third, C. Coles (Andalusians). Highly Commended, J. Billyeald, and A. Watkin (Sultans). Commended, W. Dawson (Sultans); Rev. S. R. Hole (Game Bantams).

BANTAMS (Gold-laced).—First, G. C. Adkins. Second, G. J. Horner. Commended, T. Hinks.

BANTAMS (Silver-laced).—First, T. Harvey. Second, A. Parsons. Highly Commended, J. Billyeald, and G. Bradwell. Commended, Rev. F. Thoresby.

BANTAMS (Black).—First, R. Hawksley, jun. Second, J. Billyeald. Highly Commended, J. J. Horton, and J. Charlesworth. Commended, W. R. Rose, and T. Evinson. (An unusually good class.)

BANTAMS (White).—First, W. Dawson. Second, H. Adams.

DUCKS (Aylesbury).—First, B. Ford. Second, J. Dixon. Highly Commended, Major Davidson. Commended, Mrs. Parkinson.

DUCKS (Rouen).—First, G. Daft. Second, Right Hon. Lady Middleton. Highly Commended, W. Cox, and H. Marshall.

DUCKS (other varieties).—First, G. Daft (Nottingham). Second J. Dixon.

GEESE.—First, J. Brown. Second, Mrs. Parkinson. Highly Commended, G. Daft. (Very good class.)

TURKEYS.—First, J. Smith. Second, G. Daft. Highly Commended, J. R. Rodbard. (A most meritorious class.)

CLASSES FOR SINGLE COCKS.

SPANISH.—Prize, S. H. Hyde. Highly Commended, J. R. Rodbard, and J. W. George.

DORKINGS.—Prize, E. Cope. Highly Commended, J. Faulkner, Lady Evelyn Stanhope, W. Dolby, jun., H. Smith.

COCHIN-CHINA.—Prize, J. K. Bartrum.

BRAHMA POOTRA.—Prize, J. H. Craigie.

GOLDEN-PENCILLED HAMBURGHS.—Prize, R. Hawksley, jun. Highly Commended, W. Sanday.

GOLDEN-SPANGLED HAMBURGHS.—Prize, I. Davies. Highly Commended, W. H. Swann.

SILVER-PENCILLED HAMBURGHS.—Prize, Miss E. S. Perkins. Highly Commended, J. Mitchell.

SILVER-SPANGLED HAMBURGHS.—Prize, J. Camm.

POLISH.—Prize, G. C. Adkins.

MONEY PRIZES of £10, £6, and £4, for the three best Single Game Cocks, of any variety, age, or colour.—First, G. D. Jarvis. Second, J. T. Edge. Third, W. Dawson. Highly Commended, J. Hoyland, W. Letchford, and W. Johnson. (It was the best Game Cock class that has ever been exhibited.)

MONEY PRIZES of £10 and £5, for the two best Pens of Black Spanish, of any age; to be entered and exhibited specially for these Prizes.—Prize, J. H. Craigie.

MONEY PRIZES of £10, £5, and £2 10*s*., for the best three Pens of Dorkings, of any colour.—First, H. Smith. Second, C. H. Wakefield. Third, Mrs. Parkinson.

MONEY PRIZES of Five Guineas and Three Guineas for the two best Game Cocks, hatched in 1857, of any variety or colour.—First, W. Johnson. Second and Third, J. T. Edge. Highly Commended, J. T. Edge, W. Johnson, and W. H. Swann. (The class throughout good.)

MONEY PRIZES of £10 and £5 for the two best pens of Cochin-China of any colour.—First, J. K. Bartrum. Second, J. Bradwell.

We will give the prize lists for Pigeons, Rabbits, and Canaries, next week.

CHARACTERISTICS OF GOLDEN-PENCILLED HAMBURGHS.

IN my last letter I stated what I am sure are the true markings and colour of the above variety. And, as "C. E." truly says, neither breeders, nor keepers who are in the habit of visiting Poultry Shows, can form any idea of what is the true standard of Golden Pencils, such a discrepancy exists in Judges giving prizes; some giving to the light buff, and the grey, copper-tinged, small markings; others giving to the dark buff, with similar-coloured, but larger markings; and others taking a correct view, and giving to the dark-gold bottom, and black-green markings. Wherever there is a mixture of grey copper colour in the Pencil markings, there is sure to be a buff bottom, either light or dark. As I have never seen clear black-green pencillings on a buff bottom, therefore I take the party-coloured pencillings to be a certainty in the buff variety. Now for what I consider the correct standard of Golden-pencilled hens.

First, a dark-gold ground. Second, the pencil marks—a clear black green, and not mixed with any other colour in the marks. Third, the marks to be uniformly oblong across the feather, and not jagged at the edges of the pencil marks, or ill-shaped, to extend from the tip of the tail to the bottom of the hackle. Fourth, the markings on the breast to reach near to the throat. Fifth, that the pencillings should be under the body, as well as on the back, though smaller; of course white ear-lobes, rose-combs, clear hackles, and blue legs understood.

I have nothing to add (with respect to the cocks), to the remarks made by the editor, except I would have them clear from body marks; as I have seen very good cocks with a slight marking of the wing-coverts, and a few marked feathers on the rump near the root of the tail; yet I consider these faulty birds. With respect to form and condition weighing with the Judges against more correctness of feather—take them for what they are, and nothing more—correctness of feather, as well as form and condition, ought to be the aim of all who wish to see beauty and utility combined. But I would emphatically state that correctness of feather in all the Hamburghs is the great essential.—I. H.

AWARDS AT THE CRYSTAL PALACE POULTRY SHOW.

HAVING been an exhibitor at the various Poultry Shows from their very commencement, and taken prizes in most of the classes, I cannot but express my surprise at the way in which some of the prizes at the late Show have been awarded. I can only account for it by supposing that the number being so very great, and the time for inspection short, the Judges were particular as to the first prize; but the second and third were taken almost as they stood, and with but little discrimination as to their real merits. Now the Judges are well paid; and if they found they could not get through with their task properly, they should not have undertaken it at all. That they did not get through with it properly is evident from what follows.

They say the Duckwings were the finest ever shown. I agree with them: but let us see how they have displayed their knowledge. 1st. prize no one can find fault with; it is a beautiful pen. 2nd. prize, much inferior in size, shape, and plumage to those "highly commended;" and badly matched, compared with them. The 3rd. is even worse than the 2nd., being an imperfect pen, the cock having only one eye—a disqualification of itself; and yet they have awarded a third prize over a pen as good in every respect, excepting the colour of the cock, as the pen taking the first prize.

Again: Two pens of Black-breasted Red, side by side, belonging to the same person; one valued by the owner at five guineas, the other at three guineas. Prize given to the latter: when no person who has ever bred a Game fowl would look at the prize birds when compared with the others.

I am one of the largest breeders of Spanish, Dorking, and Game fowls in England; and take as many prizes in the two first, and more in the last, than any person in England: but I will show no more, if the prizes are to be awarded in the way they were this time. Do not fancy I am writing this from any feeling of annoyance at not having taken a prize; for I had not a single bird in either of the classes mentioned. I do it from a feeling that justice should be done to every one who places his birds in competition with others; only asking to be fairly dealt with by men competent to decide as to the merits of the various breeds placed before them. I trust to your known impartiality and love of justice for the insertion of this.—H. B.

PAINTED EARS AND LEGS.

SINCE the exposure of painted legs at Bradford Show, and the painted ears at Burnley Show, it is high time that Judges were on their guard. Before placing prizes anywhere, the birds ought to be thoroughly examined, the Judges having the power to take the birds in hand, and to wet, or otherwise use what tests they think proper to the ears or the legs. With reference to the painted ears at Burnley, the birds in the Silver-spangled class had got both first and second prizes, the Judges having left the room: but some one more wide awake than they, found the error they had made; and they (the Judges), returned and replaced the prizes, after having disqualified the pens with painted ears.

There was not one class at the Burnley Show, amongst the Hamburghs, in which there were not birds with painted earlobes. It is time that these nefarious practices were put down, and the parties held up to public odium.

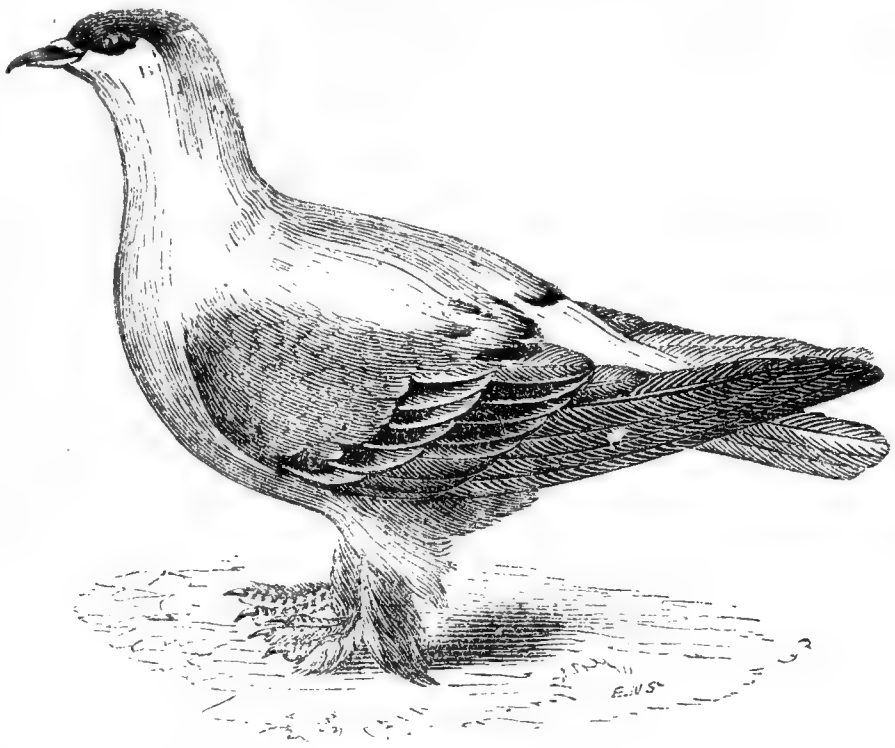
What can those do, whose sole aim is to show honestly, with parties who resort to those practices above mentioned. And there is another nefarious practice resorted to as bad as painting. In the gold and silver pencils, as your correspondent who signs himself "I. H." truly remarks, nearly all the best hen birds in both gold and silver pencils are a little marked in the bottom of the hackle. The practice of certain parties is to pluck out the marked feathers, or pinch off the pencilling, so as to make the hackle look clearer: but this is easily discovered if the birds are made to hold up their heads; then the hackle feathers appear too short, and there is an evident want of covering in the bottom of the neck. The Judges then can handle the birds, and open to the place where they will see the feather-holes, and the places where the pencillings have been pinched off. There was a large sprinkling that had undergone trimming of this description at the Burnley Show. Now, this is no new thing: numbers of amateurs of my acquaintance have ceased to show in consequence of the aforesaid practices; and more will do so unless the Judges will fully expose these attempted frauds.—AN OLD SUBSCRIBER.

[Any parties detected in such attempted deceptions, should have their names sent to the Secretaries of all other Poultry Shows; and such delinquents should never be allowed to exhibit.—ED.]

PIGEONS.

VARIETY 14.—THE TERN, OR SEA-SWALLOW (*Columba Sterna Hirundo*).

French. PIGEON HIRONDELLE. *German.* DIE SCHWABBEN TAUBE.



THIS beautiful variety of Toy Pigeon is much esteemed in Germany, where a great variety is bred. In France they are also known. They have recently been introduced into England; and are now frequently to be obtained. They are generally called Swallows; which name they derive from their plumage, especially the blue ones, much resembling that of the Tern (*Sterna Hirundo*), a small species of Gull, which is also called the Sea-Swallow. Hence their common name of Swallow Pigeons; by which they are known in Germany, France, and this country.

These Pigeons are slightly larger than the Dovehouse Pigeon, which they much resemble in general form and character. There is, however, much diversity in their appendages; for some are smooth-headed, while others have fine broad-turned crowns. A few are clean-footed, though they are mostly heavily-feathered. They are swift and active on the wing: but, owing to their large slippers, the majority are not well adapted to provide for themselves in the fields.

As to plumage, the top of the head, the wings, and the slippers of such as are feather-footed, are coloured; the rest of the plumage being white.

The upper mandible is darker than the lower. The top of the head must be evenly coloured, down to a line from the corners of the mouth, across the eye, and evenly round the back of the head; or, in such as have turned crowns, quite up to the crest, the hood being perfectly white.

Respecting the wings—they must be wholly coloured: but the scapular feathers that overlay the shoulders are white, giving the coloured wings a narrow appearance, which is regarded as a point of much importance.

The feet, or slippers, are coloured only from the heel, or hock-joint, downwards; the trousers, or feathers, hanging down; the legs, or thighs, being white.

The coloured parts are of various shades. The Black Swallows have the markings of a fine, glossy, velvety black. The blues are also with black bars across the wings; or, of a light blue, without bars at all: and others have the coloured parts red, yellow, dun, or mealy. All the principal colours are occasionally bred with white wing-bars; and, I believe, some with spangled shoulders: but these are rare, and the divisions of colours are not often so regular as the others.

There is a sub-variety bred much smaller, with fine broad hoods, and their short legs heavily feathered, which are highly prized in Germany, and considered quite the high fancy in the way of Swallow Pigeons.

MM. Boitard and Corbie, the French writers on Pigeons, seem to have regarded these lesser Terns as a variety of the Carmelites, on account of their diminutive size: but a reference to the plates will show the diversity of marking which is the only property the Toys can boast. I believe these small Swallow Pigeons are not bred of so many colours as the larger varieties.

The German name of "Feen Tauben," or Fairy Pigeons, seems very appropriate to these dwarf Toys.—B. P. BRENT.

OUR LETTER BOX.

COCHIN-CHINA FOWLS (*An Old Subscriber*).—Price depends upon quality. You may buy them from three shillings to two guineas each. We know of very good birds at ten shillings each. The same answer is applicable to Golden-spangled Hamburghs. Write to any of those who advertise their birds for sale. Weight depends upon age. It is very early for a Spanish cock to begin moulting now.

POULTRY PRODUCE (*Phlos*).—Your harvest of eggs and poultry was very good.

POULTRY FOR MARKET (*Gravesend*).—Buy Mr. Baily's little pamphlet on "The Dorking Fowl."

MEALY BUFF COCHIN-CHINA (*A Constant Reader*).—The only "harm" likely to arise from breeding from a cock so feathered is, that some of the chickens would be similarly feathered.

EGG-PRODUCING FOOD (*J. L. D.*).—If fowls are kept well, but not on too fattening a diet, with plenty of green food, and a sheltered yard, you cannot do more to promote their laying. Highly stimulating food *may* induce a hen to lay a little earlier; but it is at the expense of health and permanency. We say *may*, because we incline to the opinion, that health and vigour will induce early laying quite as successfully as forcing diet. You will find all we can teach about feeding, in our Manual, "Poultry Book for the Many."

BANTAMS AT BRADFORD (*I. H. C.*).—The complaint was not inserted.

LOP-EARED RABBIT (*A Subscriber*).—If you refer to our No. 439, you will find a drawing and the points specified.

GOLDEN-SPANGLED HAMBURGHS WITH GRIZZLED FEATHERS.—"I have, at present, several Golden-spangled Hamburgh fowls, both old birds and juveniles, and I have found lately that they are nearly all becoming spotted with white on various parts of their plumage, and tips of their feathers. Would you kindly inform me the cause of this, and whether it would be unwise to breed off them this season? Would a Black Bantam cock have any chance of a prize that weighs twenty-three ounces? (He is in a very fat condition). I see in the "Poultry Book for the Many," that twenty ounces are the limit named."—A YORKSHIRE AMATEUR.

[It would have been easier to give an answer to your question, if you had stated from what part of the body the feathers you enclose had been taken. These white spots are by no means uncommon on the lower part of the breast, and also on the hinder parts under the tail. Few birds, however good, are entirely exempt from them. If they show on the back, we should not advise you to breed from them, if you want to rear first-class birds. If you do not wish to get rid of them, put them to a dark cock of the same breed. The Black Bantam cock would only take a prize when there was little competition. He is too heavy. Formerly the weight was limited to seventeen ounces.]

DISEASED COCHIN-CHINA COCKEREL (*W. H——, Exeter*).—There can be no doubt that a diseased parent imparts to its progeny a liability to the same disease. If, however, the hens are vigorous, and, as you say, the cockerel unexceptionable in colour and form, we should rear the chickens.

EGGS FOR SETTING (*A Subscriber*),—If eggs are fresh, that is, not more than a fortnight old, they need not be turned. If it is imperative to keep them longer, they had better be turned daily; but the older the eggs, the weaker will be the chickens produced from them.

BURNLEY SHOW.—The first prize for Tumblers at Burnley Show was awarded to me for a pair of Almond Tumblers, and not to Mr. T. Proctor, as stated in your list of prizes.—HENRY HOLDSWORTH.

PIGEONS AT THE CRYSTAL PALACE.—In Class 71, the name should have been W. W. Towse.

LONDON MARKETS.—JANUARY 25TH.

COVENT GARDEN.

Owing to the present fine weather, we are enabled to report continued abundance of supplies. We have also received this week our first consignment of French *Salading*, in excellent condition; and some Cornish *Broccoli*—first rate; an article worthily esteemed at this season. *Hothouse Grapes* and *Pines* are quite equal to the demand. *Forced Vegetables* comprise *Asparagus*, *Sea-kale*, *Rhubarb*, and *Beans*. *Potatoes* remain at former quotations.

POULTRY.

Notwithstanding an increase of trade, owing to the presence of the Court and the mariage festivities in London, the supply of Poultry has been quite equal to the demand; and the prices have varied little in consequence.

	Each.		Each.	
Cock Turkeys	11*s.* 0*d.* to 13*s.* 0*d.*		Hares	2*s.* 6*d.* to 2*s.* 9*d.*
Hen do.	6 6 ,, 9 0		Wild Ducks	2 0 ,, 2 6
Large Fowls	5 6 ,, 6 0		Teal	1 6 ,, 1 9
Small ditto	3 6 ,, 4 0		Rabbits	1 4 ,, 1 5
Chickens	2 0 ,, 3 0		Wild ditto	0 9 ,, 0 10
Pheasants	2 3 ,, 2 9		Pigeons	1 2 ,, 1 3
Partridges	1 6 ,, 1 9		Larks 1*s.* 6*d.* to 1*s.* 9*d.* per doz.	

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WEEKLY CALENDAR.

D M	D W	FEBRUARY 2—8, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
2	Tu	Purification. Candl. Day.	29.601—29.512	38—24	S.W.	—	40 a. 7	49 a. 4	10 a. 18	18	14 0	33
3	W	Acacia floribunda.	29.964—29.641	35—24	S.W.	—	38	50	11 33	19	14 7	34
4	Th	Acacia grandis.	30.245—30.106	34—13	E.	—	37	52	morn.	20	14 13	35
5	F	Acacia Drummondii.	30.146—29.934	42—36	S.W.	.14	35	54	0 47	☾	14 18	36
6	S	Azalea Perryana.	29.875—29.836	49—33	S.W.	.01	33	56	2 3	22	14 22	37
7	Sun	Sexagesima Sunday.	29.783—29.696	45—32	S.W.	—	31	58	3 16	23	14 25	38
8	M	Azalea triumphans.	29.651—29.637	38—36	S.W.	.02	30	v.	4 25	24	14 28	39

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 43.5° and 32.6°, respectively. The greatest heat, 57°, occurred on the 3rd, in 1850; and the lowest cold, 10°, on the 5th, in 1830. During the period 115 days were fine, and on 102 rain fell.

PHOTOGRAPHY FOR THE MANY.

(*Continued from page* 242.)

DRY NEGATIVE COLLODION PROCESS.

For Travellers.

Apparatus.—Same as for ordinary collodion process.

Chemicals.

	Cost.—s.	d.
(Iodizer.)		
A.—2 ozs. iodized collodion	1	6
(Exciter.)		
B.—120 grs. nitrate of silver in 4 ozs. distilled water + 2 drms. alcohol	1	9
(Preserver.)		
C.—1 pint Long's preservative solution..	1	0
(Developer.)		
D.—25 grs. gallic acid in 3 ozs. distilled water + 1 drm. alcohol	0	4
d.—30 grs. nitrate of silver in 1 oz. distilled water	0	6
(Fixer.)		
E.—8 ozs. hyposulphate of soda in 1 pint river water	0	9

The preparation is carried on in the dark room, as described at page 191.

On removing a plate from the nitrate of silver bath, the prepared side must be several times evenly covered with solution C. The plates thus treated, are protected from dust, and suffered to dry; then packed in a grooved plate-box, where (if light, tight, and dry), they will keep good for many months.

The exposure in the camera varies with the light, averaging about six minutes.

As development need not take place immediately on removal from the camera, the traveller has only to carry with him a box of previously sensitized plates, which are developed on his return.

Preparatory to developing, the preservative film (on the impressed plate), is softened, by placing the glass, face uppermost, in a dish of distilled water for five minutes.

Then mix solution D and *d.* in the proportion of two ounces of the former to half a drachm of the latter, and develope. When the photograph has become apparent in all its parts, a few drops of solution *d* are suffered to fall on the plate, which intensifies the already distinct negative.

In about half an hour, the picture may be removed to the fixing bath E; when it is finished in the usual manner.

N.B.—If *rapidity* of development be necessary, the ordinary pyrogallic solution (page 192), can be made use of, as a substitute for D *d.*

Sensitized dry collodion plates can be purchased complete, in light, tight cases, at the following prices:—

Size of Plates. Inches.	Inches.	Per doz. £	s.	d.
4¼ by	3¼	0	5	0
5 „	4	0	6	6
5 „	6	0	8	6
7 „	6	0	14	0
15 „	12	4	0	0

To architects, engineers, &c., whose time is precious, these plates will be found particularly useful.

THE ROYAL MARRIAGE.

Two years ago, just about this time, I gave to Mr. Gunter's people, who were to supply the breakfast and wedding-cake; also to furnish plants for a royal wedding in London—that of her majesty "Queen Mab" of these pages—a list of the most likely plants to be then in flower. We had lots of flowers up from the country in addition, and after the best was made of every sprig, leaf, and petal, I thanked my stars that this was not a wedding in the Royal Family of England, on account of the scarcity of flowers. But was it better last week, at the wedding of the Princess Royal? It was not; nor even so good. "Queen Mab" is one of the first herself, in the flower way, and her garden in the country produced as many kinds of flowers, at that time, as one could buy in Covent Garden last week. Whether such things are owing to our taste, as a nation, I know not: but one thing I am quite sure of, and that is, that notwithstanding all our talking and writing, our pride and boast, of the skill and science of our practical hands and heads, we are certainly, as a nation, very deficient in flower forcing. We not only beat the globe, in forcing fruit, but we almost crack it to its centre with our boasting in that branch of the craft. We can grow "specimens" of plants for the Shows, so large that no ordinary door is wide enough to admit

them; but we cannot force flowers up to a third-rate degree. If there is a wedding in a family in winter, what is more difficult to find, than an abundance of wedding flowers at a cheap rate? Many people wonder why this should be: but those gardeners who are old enough to remember Catholic Emancipation in 1829, and the Reform Bill of 1832, will also recollect that the first start of the London Horticultural Society, came to the dogs in the interval between these two landmarks of our social progress; and a hostile spirit against "forcing Nature," prevailed in the high councils of the Horticultural from that day to the marriage of the Princess Royal. Hence the scantiness of our part of the decorations.

But, now that we are to turn a new leaf in the arrangements of our national Horticultural Society, we must urge the Council to take up and patronise this, the most backward branch of our art. Between the last Chrysanthemum Show in November, and the first May Exhibition at Chiswick, prizes should be offered for the best specimens, and the best collections of forced flowers at all the winter meetings of the Society. I would give no prizes for cut-flowers of any description during these months; and I would give the preference to those collections which included the greatest number of plants that were most out of season: and I am very sure that a quarter of the money which has been foolishly expended by the Society, on summer "collections of stove and greenhouse plants," disbursed in this direction, will do more real good to gardening, than all such summer collections have done for the last twenty years.

It will be just twenty years next May or June, that the first collection of rare, curious, and fine-leaved plants was exhibited at Chiswick. There were 425 plants exhibited then in a special tent set apart for that very "questionable folly," as many termed it, at the time: but see, now-a-days, what our exhibitions would be without these kinds of plants, folly or no folly. Who had the temerity to break the ice, and all the established rules of the horticultural world on that occasion? For my part, I would never hesitate to break any rule, for the chance of a step or two in the right direction. I would cut into a wedding-cake with my pruning-knife, sooner than stand still, or be content, so long as there was a single complaint to be heard in the land, about gardeners and gardening. Hence this temerity. I showed all these plants myself —every one of them. The Society gave me the whole tent for myself, for I was then, *de facto*, one of the Council of the Society: and I had such influence at the "Board," that they could not well deny me the means to run out my tether to that extent. But I had weighty odds against me, both at the Board and in the open garden: and the sharpest rebuke among them all, was from one of the best practical men of the present Council—a man, too, who afterwards got many a prize for the very self-same kinds of plants which he then urged so much against. "If we want fine-leaved plants" said he one day, "what is finer than our Portugal Laurels, and other evergreens." Still I persisted: and as long as I have breath, I shall persist in this new move also, for the encouragement of forcing flowers, after seeing the nakedness of our stands at the royal wedding.

But I have not done with the first move yet. After that Show was over, the Horticultural Society offered their very highest medal to me for the 400 plants out of bloom. "No," said I; "stop, and see if the move will pay. The Society is grievously in debt; and I would as soon have my ears cut off close, as take a farthing from an encumbered body without a soul in it." "The man is daft," some of them said; "he is purse-proud; he is 'this, that, and the other;' and he has shown a want of respect and great indignity to the Society." These were actually the very words which the "heads of departments" and members of the Council told me "face to face." Mr. Fortune, Mr. Thomson, Mr. Gordon, and Dr. Lindley, must recollect these things.

But what a change in twenty years! A member of the Council, this last season, has been lauded by the very self-same "authorities," for giving back to the same Society the prizes he took for less than one-half of the number and value of my collections. It is, therefore, my turn now, "to say the least of it," that this style of praising is half daft on the part of the Society. No matter how well it may "decorate" any one of their Council, depend upon it, that is not the right way to force flowers for a royal wedding; and if I were *you*, I would "*drop it*" from the marriage of the Princess Royal. Whatever I did, "between you and me," I should take good care that "*they*" should never hear of it. Also, were it not for a peg on which to hang up that advice, the readers of The Cottage Gardener would never have heard who first set going the collections of rare, variegated, and fine-leaved plants.

But give the ladies one single lift in your next schedule of prizes, and offer something better than "artificial flowers" at the next Princess's wedding: and I am your man Friday "to order." The ladies speak to me about these things. I have heard more about forcing flowers this winter, than I did since I threw up the ace of spades.

A lady, who spent the last winter and spring in Portugal, told me the other day that they have groves there of the *Paulownia imperialis*, and that the trees are as large as our best Horse Chestnuts; that they flower exactly like these Chestnuts; that the flower-spikes are from twelve inches to eighteen inches long; and that the individual flowers are as large as Gloxinia flowers, and very much like the old blue Gloxinia flower in colour. The trees keep in bloom from February till May; so that they flower three months earlier in Portugal than they do in England. Another lady will be answered, by saying there is nothing singular in these Paulownias showing their flower-buds in England as early as October; nor in the fact, that if the frost could be kept from these buds, and from the young wood under the flower-spikes, the plants, or trees, could flower with us towards the end of April. There were three distinct kinds of the *Bugainvillæa spectabilis* in bloom there at the same time as the Paulownia: the plants were merely trained against the walls, without any other protection. We were already aware of the existence of these three kinds of Bugainvillæas in Brazil, from Gardener's travels; for he mentions the three growing in the forest on the east side of the bay opposite the town of Rio: but this is the first time we have heard of them blooming in Europe. *Spectabilis* itself has a deep crimson colour under the Portugal sun; the next kind is bright pink; and the third, "a most lovely violet blue." The descriptions are from one of our first flower-gardeners among the ladies; therefore, more true, and more to be relied on, than if we heard of them in books of science. The only plant of *Bugainvillæa* that we heard of in The Cottage Gardener, as flowering in England, is that which is mentioned in our eighteenth volume, page 54, at Cardington, near Bedford. It was kept five years in an intermediate temperature between a greenhouse and a stove; and for the last two years it was kept cramped in the same pot which Mr. McLaren, the gardener, believed to have been the cause of making it flower; and of that there can be no doubt. It blooms magnificently in Paris every year, and is a "lion" there;

but, in England, it has baffled all our skill for the last five-and-twenty years. About twenty years back, every one with a stove had his trial with *Bugainvillæa*, and failed most completely—I among the rest. You may, therefore, suppose that I made use of my informant's gardening knowledge; and it amounts to this—"We have been all wrong with it." The same treatment as with a Fig border; the same temperature as for a Passion-flower; and the same pruning as for a Peach, are the three great points, according to this lady; her own scarlet Passion-flower being in a house which is never hotter than 50° by fire-heat, and seldom more than 40° in winter. All this agrees so closely with Mr. McLaren's account of this plant, that I would strongly advise another trial with it. Such an old plant cannot cost much. Let a young plant of it be liberally treated the first year, in order to get up a framework as soon as possible. A front pillar in the warmest end of a warm-kept conservatory is the right place for it after that; and the three kinds could be inarched on one plant, to save room.

No one in England could flower *Beaumontia grandiflora* twenty years back: and it is more difficult to manage than Bugainvillæa; but now it has but to be put in the right way, and in three years it will bloom most freely. One step too fast, or a false one, will keep the Beaumontia back for years; and it may be the same with Bugainvillæa. "The charming Bugainvillæa, with its large crimson, or rose, or violet-coloured bracts, gathered into cones like a Hop plant, is worth all the care and pains you can give it." Yes, my lady; and I shall not fail to put it in the right light.

D. Beaton.

HARDY FRUIT TREES IN FEBRUARY.

Spring approaches with rapid strides, at least, as concerns the opening business of the kitchen garden; and, amongst other matters, all pruning and planting should be worked up within a week or two. There is every reason for carrying out these proceedings immediately: indeed, in most well-regulated gardens they are already performed; and such, if left over until the last, are sure to impede the regular spring business of cropping, &c. I have so frequently before, in these pages, explained the principles of pruning, that there is little occasion to go into a minute detail now; but, at the same time, as a guide to the inexperienced, I may just advert to a few of the chief points to be observed.

Peaches and Nectarines.—The wood of these is so well ripened, in consequence of the long and genial summer we have had, that in some cases there will be little occasion for shortening, on account of immaturity. Still, it must be remembered, that shortening is generally of importance, in order to induce the trees to fill well with succession-wood. Care should, however, be taken in shortening, to prune back to a proper bud, or, rather, generally a cluster of buds. There are three very distinct characters of buds to be met with on the Peach. 1st. The single wood, eye, or bud. This will generally be found terminating the extremities of healthy shoots; and a few more such generally at the base of the shoot. 2nd. The double eye, or bud. These, in pairs, are generally a pair of blossom-buds. 3rd. The triple eye, or bud. Such are generally composed of one wood-bud in the centre, and a blossom-bud on each side. It will not do, therefore, to prune to No. 2. Sometimes shoots may be found on old and hard-worked trees, full of such buds, and they point, in my opinion, to the decline of the tree. No. 3 is the favourite character of bud with the practical gardener; and, indeed, when the shoots are well studded with those, the tree is generally in excellent condition. In thinning-out Peaches, &c., care must be taken so to shorten what I have always termed nursery or succession-wood, that such shoots may have no fruit. These must be regarded as reserved especially for the production of succession shoots, to provide against the possibility of blanks. The shoots to which I allude, are those placed lowest down, in the angles formed by the side branches, from any given bough or principal stem, of which there are generally several on every well-grown tree. These, being pruned back to three or four eyes or buds, produce young succession-spray of good character, provided every fruit is stripped from them betimes, for these I never allow to bear out.

Pears.—I may just observe, that the past summer has been so genial, as to Pear wood, that every portion of the young wood is as brown as a berry; little or no green or raw-looking points to be seen. There will, therefore, need less shortening than usual; but, of course, the usual attention as to thinning-out, &c. As to what gardeners, in former days, termed spurring back, that is to say, leaving about half an inch of all the young spray over the trees, under the idea of their producing true blossom-buds at their base, it is just about as wise a procedure, in my opinion, as expecting a stumped-down Willow stool to produce catkins or blossoms. It is better when trees get somewhat naked, as to their main shoots, to tie down some short-jointed, stubby, young twigs on their naked portions.

Plums.—There is not a very great difference between the treatment necessary for Plums, and the Pear. The Plum should not be suffered to become too gross; root-pruning is, therefore, sometimes very beneficial. Gross shoots which have not been pinched back in June, may, unless required for filling vacant spaces, be pruned clear away. Plums answer exceedingly well by the tying-in system of young ripe spray, as described for the Pears, especially when the trees get a little worn.

Cherries.—These, in general, need little knife work. As for the *Morello*, I have a man at this time nailing and training a north aspect of *Morellos;* and, according to the old practice, he prunes out what he finds superfluous, or naked, and hard-worn, as he proceeds; and this is, perhaps, the best mode. The larger Cherries need little pruning; if neglected in summer, there is generally some foreright shoots that need cutting back to about an inch or more; for these produce spurs for blossom at the base of the young shoots.

Bush Fruits.—The pruning of these is so generally understood, that I need not go into details concerning them. I strongly advise all who wish to have full crops of fine Gooseberries, and such bushes as may be gathered in half the time of ill-pruned bushes, to remove almost every particle of young spray from the interior, and thus cause the whole bearing effort of the bush to be directed to those portions well and equally exposed to the light. It is astonishing how much less trouble, and how much finer and larger the fruit on the exterior becomes, by this practice well carried out. I may here point to the propriety of giving them a slight surface dressing: this is very necessary where the trees are hard-worked, or not over strong. Any coarse manure, if only three or four spadefuls, will prove of much benefit, both at present by imparting its virtues to the soil; or, in summer, by averting droughts, and screening the surface roots, and coaxing them up; and is very congenial to the habits of the Gooseberry. The same may be said of the Black Currant: no plant answers better to a surface dressing, although only rotten weeds and a little manure mixed, than this. But,

of course, the pruning will have to be carried out, if not already done. The pruning of this useful fruit is conducted on very similar principles to that of the [illegible]y. The basis of th[illegible] bas[illegible] rather weak; if so, [illegible] and even reducing the older and the leaner extremities, must be practised, if only for the sake of reducing the volume of the bush; and, indeed, to give the sap less distance to travel. But, under all circumstances, there is generally a great number of twigs that require removal: certainly, no two twigs should be allowed to touch each other; but should be at least from two to three inches apart. As to shortening, the process is forced upon us occasionally. We do not shorten, as a principle needed by the Black Currant; and, indeed, it is seldom necessary, except on tall and gawky branches, which are averse to the general character of the bush, and are become somewhat lean and too high for our design. As to the young spray, shortening must, by all means, be avoided. To shorten Black Currants as Gooseberries, would be to choke the bush with succulent and gross shoots in the interior—robbing and shading the fruitful portions. As in other bush fruit, care should be taken to remove such watery shoots, and to let the bearing be carried out where the light and the air can act. Allroot-suckers must be cut and scraped clear away.

I may now make a few remarks on fruit-tree planting, which must be soon completed as far as the affairs of this spring are concerned.

Let me here point to the importance of using loamy soil as a part of the compost employed; old garden soils can never, employed alone, promote that healthiness and fruitfulness that the addition of maiden loams will do. I again recommend the platform mode as the most certain, the most economical, and as generally satisfactory. By this plan, the trees are always under the most perfect control, as far as the root is concerned. Root-pruning may at any time be performed with ease, and in the most definite way; and as for the ripening of the wood, there need be no doubts on that head. It is always shorter-jointed on platforms, and that is a point of material importance. By this practice there is less occasion to consume the rich turf of the old pasture: a platform four feet square, composed of fresh loam, tolerably adhesive, well blended with at least equal proportions of good garden soil, and if not turfy, some strawy manure mixed with it, will be found sufficient; and half a dozen barrows of this loam will suffice for almost any tree.

R. Errington.

HEXTON HOUSE.

This compact, beautiful residence of Mrs. Latour, is about seven miles from Hitchin station, and a similar distance from Luton; and is situated at about the lowest point, and at the extreme end of a beautiful valley; extending northwards and north-eastwards to, and beyond Silsoe, which is also about seven miles distant. As the ground rises gently even to the northwards, and the site of the mansion is at no great distance from the Hexton and Pegsden Hills, and the fine elevated plateau of Lilley Hoo, to the southwards; whilst it is bounded to the west, by the Hexton and Barton Hills; the whole demesne may be said to be self-contained, depending rather on internal associations for its interest, than to the scenery beyond its boundary, as seen from the vicinity of the mansion.

The effect as to scenery is very different, when from any of these heights, and at no great distance, you look down upon the mansion, offices, and gardens, clustered within a few hundred yards of each other; and yet sufficiently separated and distinct, peeping through the surrounding woodlands, or upon the village basking in the sunshine—the very sheltered position speaking of cosy warmth and comfort; or upon the neat little church, and its well-kept grave-yard, just, perhaps, a little too sombre, from the number of its Yews and Cypresses; or upon the picturesque white school-house, telling that here, the means of placing the best of all fortunes within the reach of the young, have not been neglected; or, when raising your eyes, and looking straight before you, they rest upon a landscape quite as extended, and only inferior in richness and magnificence, to that seen from the front of the Palace at Sydenham.

Some of these heights (the bases of all of which are chalk) are also interesting in themselves. Lilley Hoo (without alluding to antiquarian jottings), is not so celebrated for its rich pasturage, though a very favourite sheep ground, as, from its being situated at an equal distance from Luton and Hitchen, it has long been a favourite rendezvous for summer parties, and the enjoying of those free and easy, and generally harmless recreations, understood by the term of "Going a Gipsying." No wonder that such a place has many pleasant associations for young friends; and that even some, whose once raven locks are now dotted with grey, should look back to it with fond recollections, reminding them of the period when those wonderful and valuable commodities—human hearts, were lost and won; or, more properly speaking, by some wonderful alchymy, two became thoroughly blended into one.

Near the northern end of the Hoo, a fine view is obtained of the extended landscape referred to, embracing, it is said somewhere about forty miles in extent. At the extreme end, and just looking down on the village of Pegsden, the near neighbour to Hexton, is a huge natural cutting in the hill, called *Pegsden Barns*, which is much visited still; but which was a greater wonder before we became so accustomed to the large artificial cuttings for our railways. In going from Lilley to Hexton, two or more such cuttings may be seen in other chalk hills, the sides smooth and covered with herbage; the bottom part also smooth and level, and generally cultivated, presenting altogether such a finished appearance, as we should expect a railway engineer to leave behind him, when, after preparing the ground for his rails through part of a deep cutting, he had for some reason suddenly abandoned his work. The open end of all these natural cuttings, abuts on to low level ground. How have such cuttings been formed? Have they been cleared out by a sweep of diluvial waters? The Barton Hills are distinguished for wild plants, and especially for large quantities of the *Anemone pulsatilla*. Botanists, I believe, may roam over them, on applying for permission from the worthy rector of Barton, the Rev. Dr. F. Foord Bowes.

From the indicated position of the mansion, it will be apparent, that if water can be obtained at all, it will here be devoted to an ornamental purpose; and a beautiful lake, close (rather too close), to the south side of the mansion, will prevent the ardent lover of water in the landscape, from being disappointed.

A very pretty avenue, nearly a mile in length, and which will be more interesting every year, leads from the village of Pegsden; but I am best acquainted with the entrance from Hexton, on the north side. From the gate to the mansion is only a few hundred yards. Shortly after entering, the road forks into two; that on the east side going up to the north side of the mansion; that on the west passing by and communicating with a large kitchen garden, and going on to the stables; whilst a cross road joins the approach

from Pegsden, and communicates also by another fork with the kitchen, and other house-offices. It will thus be seen, that a triangle of ground is enclosed between these two roads—the base of it being next to the gravel at the north entrance. The point and part of the sides of this triangle, are planted with forest trees, accompanied with a dense underground of box; but a good portion of the space next the house is devoted to a flower garden, surrounded by wire fencing. On the east side of this garden, separated from it by the approach, is a level part of the park, containing some good specimens of timber, and bounded at a considerable distance by a thick belt of plantation. A wide space of gravel separates the east side of the house from this part of the Park. A similar width of gravel is placed in front of the south side of the house, which has a large conservatory at its west end. A sloping bank of turf, some thirty feet or so in width, takes you down to the lake, which is narrow there: the main spring being little farther westward than the end of the conservatory. This spring has sufficient fall to work the water-ram that supplies the mansion, &c., with water. The ground, therefore, rises abruptly from the end of the conservatory: and between this and the approach from Pegsden, is a piece of kept pleasure ground, to which I will again refer. Passing east-by-south from the house, the lake widens beautifully; a walk being on the side next the park already referred to, and part of the park on the other side. The water is generally very free from weeds and scum, owing to the presence of water fowl, and the strength of the springs, which keep up an overflow for a good mill stream. At the extreme end are summer-houses, cascades, and islands, clothed with vegetation, and their branches drooping in the water. Passing a bridge close to a cascade, you enter a sweet flower-garden, surrounded on three sides with wood; and on the south side, I think, with a single row of trees—Horse Chestnuts, so far as I recollect. Add, that through the woods and bounding belts are miles of shady walks in summer; and then making a few strokes for himself on paper, the youngest reader will better be able to follow us in our observations and criticisms.

Taking our standing point, then, at this flower garden at the back of the house; I would just say, that Mr. Watson, the intelligent gardener, made as much of it as the circumstances and his means would permit. He here tried an experiment with Verbenas, turning them out into well-aired beds at the beginning of April, in order to get room, and bending Spruce and other branches over them; and they did well, and were covering their beds when other people were planting. The Scarlet Geraniums also, answered well, and were planted early. Calceolarias do not, in general, do so well. There were, also, some fine beds of Pœonies; and, perhaps, the most striking of all, were a great many plants of Hydrangeas, grown in tubs and boxes, and set round the sides of the garden. On several of these tubs I counted more than a hundred flowers, and in full health and vigour; though, individually, of course, the flowers were not so large as if you took only one large head of bloom from a fine young plant. The treatment is extremely simple. Mr. Watson prunes away all the flower-stalks in autumn, but leaving almost every bud. The boxes are put in an empty coach-house for the winter, and want, and get, little more than a good top-dressing in spring. Near the centre of the garden is a piece of rustic-work, where an opportunity is given for Clematises and other creepers to run over chains, pillars, &c.

There is an old proverb, that it is an "ill wind that blows good to no one." At any rate, such an ill wind, a number of years ago, wreaked its fury, only for a few moments, in this pretty vale; and though the width of its range was not great, everything went down before it: three or four garden walls, glass-sashes out of number, and huge trees that lined the sides of this garden, were snapped as if they had been small icicles. Extra work was needed in consequence: one wall, at least, in the kitchen garden, was never rebuilt; and the garden was all the better for the want of it. This flower garden, so far as giving flowers a chance, was also all the better for it. But it is questionable if this is an unmixed advantage. If there is any truth in the principle, that if a flower garden is near a mansion, we ought to see the flowers after entering the house, or passing through it; then the position of this garden could hardly be worse, as you must pass it before getting to the entrance on the north side of the house. Knowing well, and having profited by the fine taste of the lady proprietor, I can only come to the conclusion, that it remains there as a memento of old associations. Many such mementos are privileged to remain; and who would rudely remove them? In such a case, a very suitable compromise would be effected, the shade and position considered, by discarding herbaceous plants, and placing in their stead a few massive groups of American or other evergreens. R. Fish.

(*To be continued.*)

ROSES IN POTS.

FOR FORCING AND EXHIBITION.

In my various peregrinations through the country, I do not meet with many well-grown Roses in pots. If the cultivators could but see the splendid examples exhibited at the Metropolitan Shows, in May and June, they would, no doubt, strive to imitate such specimens at home; but I fear they might not adopt the right methods to attain that object. I think, in many cases, they are in too great a hurry to succeed perfectly: hence they content themselves by concluding that the great growers have some *hocus-pocus* way of managing that cannot be followed, except by those who are initated into the mystery. This is a great mistake; and as I know it is so, I have taken pen in hand to show how simple the process is to obtain good specimens in pots of this most lovely flower.

Soil.—The first thing is to procure the right soil. Many country growers imagine that Roses grown in pots should have rich, light soil. This is decidedly a mistake, excepting, perhaps, the more tender kinds—such as some of the *Bourbons*, *China*, and *Tea* varieties. For the stronger growers, the right soil is fresh, rather strong, turf, chopped into pieces about half an inch square, and well-rotted cowdung, in equal parts. This may, in truth, be described as a rich, strong, or heavy compost. For the tender varieties, alluded to above, I recommend an admixture of leaf mould, not too much decomposed. I do not approve of any sand, or heath mould, in the Rose compost.

Drainage.—The Rose, like most other plants, cannot thrive in sour, stagnant, wet soil, whether it be in the open border, or in pots; hence both must be thoroughly drained. In pots, use broken potsherds, of a large size, from one to two inches thick, according to the size of the pots.

Pots.—Let the pots be clean and sweet, from six inches to eight inches diameter, at the first potting, in proportion to the size of the roots and plants. I like the pots to be rather deeper than ordinary, and not very hard burnt.

Plants.—Having got the soil and pots ready, then look out for the plants. The potting may be done any time the first season, from November to the begin-

ning of March; for the stronger growers, such as the *Moss, Provence,* and *Perpetuals,* the sooner the better. The others need not be potted till March.

Potting.—Having received the plants, if any of them have been grafted or budded, look to their roots, and diligently extirpate all suckers, and buds of suckers, that may be visible; also cut off, to a living part, all roots that may be dead, and all knobby excrescences; then trim in slightly the living roots. The plants are then ready for potting. Put in upon the drainage a layer of the largest pieces of turf, and upon them a thin layer of soil; then put the plant in the pot, holding it with one hand, and spread the lowest tier of roots out equally all round. Upon them place a layer of soil, and then spread out the next roots; covering them again with the compost. Press each layer down very firmly; and so proceed till the pot is nearly full. Then again press the soil down very hard. Firm potting is essential to success. Leave the soil half an inch below the level of the rim. This space is to hold water and liquid manure, and also to allow room for top-dressing. Should the pots and plants be large, an inch of space for these purposes will not be too much.

Pruning.—The stronger growers should be shortened-in about one-third of the length of the last year's shoots, and the weak growers just ended. The former may be plunged in an open part of the garden in coal-ashes, taking care that there is a layer of them, at least two inches thick, under the pots, to keep out the worms; but the tender varieties must be plunged in ashes under a frame, or pit, till the middle or the end of May, because the late frosts injure the young shoots seriously. The glass should be drawn off every mild day; and when the weather becomes warmer, the lights should be propped up, even during the night. When the weather is decidedly warmer, then prune the plants a second time. This, in general, may be done about the end of March. Prune the strong growers to three or four eyes; but thin out the branches, so that they may not be crowded in summer. The weak or tender sorts should be pruned still closer: two eyes will be sufficient for them. The great end, or aim, is to have rather a few good strong shoots regularly placed all round the plant, than a large number of weak, straggling shoots. When the summer arrives, the *Teas, Chinas,* &c., may be plunged near the strong growers.

In June, they should all have a second potting; and the same attention in draining, potting firmly, &c. Whilst this second potting is being performed, look over the shoots, and thin those that are too crowded. Very strong shoots should have their ends nipped off, or they will rob the rest of their due support. When all are repotted, plunge them again in the open air.

Watering.—In dry weather, supply them with water pretty freely. Give them liquid manure, made of sheep or cowdung, mixed with a shovelful of quicklime, to kill insects. Do not apply this too strong; let it be diluted with half its quantity of water. It is better to err on the safe side. Always water at least twice with pure rain water before giving liquid manure, and twice afterwards. This treatment should be continued till the middle of September; after which time the plants should be kept comparatively dry, in order to check growth, and ripen the wood. I would not allow them this first season to produce a single flower, as that would tend to weaken the plants. The grower must have patience; and let Nature assist him to give strength to his Rose plants, in order to succeed in producing fine flowers, and plenty of them, in due season.

Insects.—The green fly is sure to make its appearance during the growing season. To check and destroy them in the open air, apply, through a syringe, some tobacco liquid, mixed with half its quantity of water. If applied too strong, it will scorch the leaves. In the frame, or pit, the green fly is easily destroyed by tobacco-smoke. The mildew, too, sometimes, in damp weather, makes its appearance. The remedy for this is to dust over the affected leaves with sulphur. The grub, too, will attack the flower-buds, eating the inside completely away; or by curling up the young leaves, stop their growth. I know no application that will kill these vermin, except that of crushing them with the fingers. They are not to be destroyed by the recipe that, when I was a lad, a Scotchman gave me. When I asked him how to kill woodlice, he said, "Get them atween twa stanes, and grind them to deeth." The Rose grub, however, cannot be trapped that way.

With the above care and attention bestowed on his young Rose trees the first season, the amateur will find them in a fine condition. The treatment the second season, and a list of the best varieties for growing in pots, I must reserve to another opportunity.

T. Appleby.

PECULIARITIES OF PRUNING.

THE FILBERT AND THE BLACK CURRANT.

That extreme opinions are often bad, is a saying as old, perhaps, as language itself, and is verified by events of every-day occurrence. Even in garden matters, there is no lack of enthusiasts, who advocate extreme measures in certain cases, with an earnestness that is far from reprehensible; even when the majority of the thinking, or working public, have proof of the fallacy of the thing advised. Potting very small plants at once, into very large pots, was strongly urged by a large section of plant-growers. Root-pruning of fruit trees, had previously been insisted on as an absolute requisite to the fruitfulness. By-and-by, or rather contemporary with these ideas, various modes of pruning the top were also insisted on by sundry members of the blue-apron fraternity. Horizontal, vertical, and pyramidal forms were all insisted on by their respective friends, with a warmth, which was more or less afterwards acted upon; and it would be wrong to say without success. Nevertheless, in spite of all these improved modes, many old-fashioned customs still prevail: and, it is not saying too much, when we aver, that the bulk of the fruit which supplies the London market, is grown much in the same way as it was a hundred years ago; most of the trees are treated much the same now, as they were then. Now, though this is true in the majority of cases, there are others in which a considerable alteration has taken place; and, it is generally admitted, that the new process is right in principle.

If we take a tree in a wild state, its fruitfulness is often found second to its growth, more especially in its earlier years; but, as it becomes older, it becomes more fruitful; and eventually still more so in its declining state. This wise provision of Nature—enabling it to reproduce itself with greater facility when its own days seem numbered—is more conspicuously shown on all the trees bearing stone fruit. A Cherry, or Plum, becomes more prolific in blossom, as it becomes gnarled, stunted, and diseased; and an old Haw Thorn is equally so. Now, this lesson has not been lost on fruit growers; for grafts or scions carry with them much of the constitutional characteristics of the tree they are taken from, and consequently become fruitful at an earlier age, than from seedlings; but, at the same time, they are shorter lived; and, as I have

before stated in these pages, the varieties to which they belong are eventually worn out. Now, this state of things is owing, in a certain degree, to the somewhat altered condition of the tree; altered by cultivation and improvement from the original wilding which successfully struggled for an existence, with the other denizens of the thickets to which it belongs. But fruit-bearing trees are also altered by pruning, as well as by other means; and one or two extreme cases are worth noticing—they relate to trees grown on an extensive scale in this immediate neighbourhood—Filberts, and Black Currants.

Pruning has always been a favourite theme with the theorist; and careful and judicious pruning has been one of the universal maxims which every one thought he was in duty bound to advise his neighbour; and prune, prune, cut away, has been insisted on by all who were entitled to give an opinion in the matter, until some ardent admirer of Nature stepped forth and energetically opposed the pruning of certain kinds of forest trees. Other friends of the fruit trees stepped forth, and put in a plea of exemption for certain descriptions of certain aged fruit trees; consequently, a check was put on indiscriminate cutting and wounding. On the other hand, certain cases called for more than ordinary mutilation; and the knife and saw were brought to act with great severity: the Grape Vine, for instance, being one of the cases in which extensive amputations take place. But not more so than is the case with Filberts in this neighbourhood; for it is not too much to say, that ninety-nine parts out of a hundred, of the young wood of each year's growth, is cut out in the autumn, or early winter, during the process of pruning.

I believe the Kentish system of pruning Filberts, was given in one of last year's numbers of The Cottage Gardener; but, to those who may not have that number by them, it is right to say, that during the pruning process, all coarse strong shoots, from a yard to five feet long, are either pulled off by hand; or, when they form the end of a shoot, and it becomes necessary to leave on a few inches of their base, this is done by cutting off the shoot with a saw, and in as rough, haggled a manner as possible; which renders it more likely, that the shoots that will proceed from it the next year, will be shorter and more fruitful in nut-bearing buds. A clean cut, however proper it may be for a Grape Vine, or almost any other tree, is here ignored as injurious; and it is possible we might carry out the principle in other things with equal advantage. I may also add, that Filberts are started at first, and afterwards cut so as to present a hollow centre, for the sun to shine into; none of the branches at the extreme ends being more than five feet high; and in diameter from nine to twelve feet or more. Their appearance when pruned is far from being a pleasing object—so much being old wood. The only agreeable feature about them is, their likeness to each other; and, as there is often a large breadth at one place, the effect is a dense compact mass, in which old wood, gnarled and crooked, greatly predominates; few of the spurs of young wood remaining, exceeding two inches in length. Ordinary observers would suppose that such a severe system of crippling a tree must, of necessity, shorten its existence; and I have no doubt it does; but it certainly makes it more fruitful; and, what is of equal value, the fruit is much better than that grown on trees left to a state of Nature; there being fewer of those abortive tufts of empty husks when grown in this way, than when the trees are allowed to grow large at will.

Black Currants are such common things, that many people seem to regard them as unworthy of anything better than an out-of-the-way corner; and any one is supposed to be able to cut them. Nevertheless, they, like many other things, deserve to be treated in a better way; and, although it is said they thrive best in a damp shady place, they are very often found here in one of an opposite character, and do very well. They are extensively cultivated in the neighbourhood; and, a mode of treating them has of late years been much acted upon by many large growers, which is not much known, I believe, to the general mass of readers of this periodical. It is to plant the piece or block, at the rate of about 3000 plants to the acre; and after the second year, to cut down to the ground, or nearly so, each alternate plant; which, making a vigorous spring the following summer, bears excellent fruit the season after that, when its fellow is cut down. But, the bearing tree is allowed to stand three years before cutting down again; which is one year to form shoots, and two years to bear fruit; consequently the tree cut down this winter, will bear in 1859 and 1860; and those cut down next year, will bear in 1860 and 1861. Thereby, all the trees will be in bearing one year, and only half of them the next. The better quality of the fruit is one of the reasons for so doing; and we seldom see anything done on an extensive scale, without its having a strong claim to utility: and I feel convinced this will be found to be so; otherwise, those now adopting it, would have relinquished it ere now, as the plan is not a new one. J. Robson.

HISTORY OF BRUGMANSIA KNIGHTII—ORCHIDS FROZEN, YET UNINJURED.

The poor doctor, my worthy friend, was sorely perplexed when he read, at my house, in the last number, "that without an order from the Vatican he could not see the Experimental." "If an order from Cardinal Wiseman," says he, "could do it, I think I could get one. But the Vatican! faith, I am nonplussed! Who would have thought Donald Beaton was a Roman? By Dad, I would rather have taken him to be a Cameronian. But, *nabocklish*, Vatican or no Vatican, I *shall* see the Experimental, if I climb the wall, and inspect it by moonlight, yar soul!" And, you may depend on it, the doctor will be as good as his word; though how the poor little man is to get over the wall with his short legs, aldermanic protuberance, and short wheezy breath, I know not. I shouldn't be surprised if he were found early some morning next summer suspended by the tails of his coat, and hanging from the top of the wall, like honest Baillie Jarvie in the Highland glen. Your answer about the Experimental naturally made him cross; so when he came to the Digitalis and Gloxinia dodge, he pished a good deal, and said, "I hold with Oken, that anything that is not as dissimilar as a carp and a cat will breed; and if I had a good microscope to see the size of the pollen granules of the two plants, I could tell pretty surely at once. Hybridisation is in its infancy. Wait till I begin working the Orchids."

And, as you don't know anything about the origin of *Brugmansia Knightii*, I shall give it you; for if *you* don't know it, I suspect no one else in England does. This plant was raised by my neighbour, John Lyons, Esq., of Loddistown, to whom we are all much indebted for his valuable labours in horticulture, especially in the management of Orchidaceæ, of which he was the earliest and the most successful cultivator in Ireland. He told me himself that he raised it from seed; but from whence he got it, or came by it, he could not tell. He had lost the plant, and was glad to get one from me last summer, as it is very scarce. I have two large plants, and have supplied many friends with cuttings from them. But to return to its history. Mr. Lyons gave a plant of it, many years ago, to a Dublin nurseryman, who sent it to London for exhibition; it got there in a dilapidated state, and unfit to be shown. It was then bought by some one for a trifle; and, two years after, came out as *Brugmansia Knightii*. Now, I stand up for my neighbour; and say, that if all I have been told is *correct*, it should be *B. Lyontis*, and justice done to the distinguished horticulturist who introduced it, even late as it is. Late is better than never.

And now, as we are upon Orchids, let me tell you of a most

interesting, though unintentional, experiment I performed with a lot of them last March twelvemonth. I was in Dublin, when a friend was parting with some duplicate specimens of the following plants; and having, for a wonder, some spare cash, I bought them:—*Aërides odorata*, *Dendrobium cœruleum*, *Vanda cœruleum*, *V. fulva*, *Odontoglossum grande*, *O. citrosmum*, *Dendrobium heterocarpum*, *Lœlia anceps*, *Cattleya Skinnerii*, *Epidendrum inversum*, and a few others unnamed. They were securely packed in a hamper, with a good bass mat around them. I took them with me to the train; but, being too large for the van, I had to leave them behind in the store to come next day by luggage-van, sixty miles into the country. That night (I was starting in the evening), it froze hard; I trembled for my poor plants. Next day it froze harder, and I was upon thorns, waiting the whole day for the return of the cart I had sent for the hamper, as I live ten miles from the railway. At last the cart came, and no hamper. One train more was due that night at ten o'clock; so I at once went away myself in the dog-cart with the two largest blankets I could get, and at ten o'clock received my hamper out of the train. I wrapped it in the blankets, and came away, reaching home at midnight; the thermometer being 5° below freezing. With fear and trembling I commenced unpacking the hamper; the bass-matting as stiff as sheet-iron, and completely frozen. I looked at my poor plants, and there they were, more like crystallised bon-bons for decorating a Christmas-tree, than plants for a hothouse. I thought it was all up with them; so I put them into a cold greenhouse with the blankets about them, and went to bed. To make a long story short, I shall surprise you by telling you I did not *lose one plant!* The top shoots of some were damaged, not of all: and this rather improved them, as it made them bushy; and they have all since flowered beautifully. *Vanda cœruleum* and *fulva* did not suffer at all; *Odontoglossum grande* a little; and all the rest slightly.—Italicus, *The Glen, Ballymahon.*

CITRUS JAPONICA.

Received from China, by Mr. Fortune, under the name of the "Kum-quat."

Mr. Fortune has furnished the following memoranda respecting this plant:—

"This species, long known to botanists, and to those who have visited Canton, was one of the plants which Mr. Reeves recommended me to send home to the Horticultural Society. In the south of China, great quantities of it are grown in pots; and hence it is met with, as a common plant, in the well-known nursery gardens at Fa-tee. It is, however, evidently of a more northern origin; for I met with numerous groves of it on the island of Chusan, and elsewhere in that part of China, where it grew in far greater perfection than it does about Canton. It seems also to be largely cultivated in Japan, where it has been seen and described by Japanese travellers, such as Thunberg and Siebold."

"The Kum-quat groves of Chusan are formed on the sides of the lower hills, in those situations where the Tea-shrub (*Thea viridis*) flourishes. The plants are arranged in rows, about four feet apart, and do not attain to a larger size than about six feet in height; from three to six feet is the size which they are usually met with. A small kind of Orange is also found in these groves; but good Oranges, such as those known in the south as *Mandarins*, and *Coolies*, are entirely unknown; indeed, the Chusan winters would be far too cold for them. This shows, therefore, that the Kum-quat is of a much hardier nature than any of the plants belonging to the Orange tribe with which we are acquainted in gardens."

"The fruit ripens late in the autumn, being then about the size of a large oval Gooseberry, having a sweet rind and a sharp acid pulp. It is largely used by the Chinese as a preserve; and very frequently finds its way to England as presents to those who have friends in China. Preserved in sugar, according to the Chinese method, it is excellent.

"In China, the Kum-quat is propagated by grafting on a prickly wild species of Citrus, which seems of a more hardy nature than the Kum-quat itself. This fact should be kept in mind when the plant is increased in this country; otherwise we shall have a comparatively hardy plant growing on a tender one. We have no experience yet as to the fitness of this plant for our climate; but, if not quite hardy about London, it is likely to prove so in such counties as Cornwall, and Devonshire, or in the south of Ireland. It is well worth a trial in those districts; for if it would succeed as it does in the island of Chusan, it would be a striking and beautiful object. The Kum-quat groves on that island, were amongst the prettiest sights which came under my notice, particularly when the fruit was ripe, hanging in profusion over the bushes; and contrasting so well with the clear green foliage."

The plant is cultivated in the Society's Garden, resembles a dwarf small-flowered Orange tree, with thinner, smaller, and narrower leaves. Its fruit is as Mr. Fortune describes it; but its bright Orange rind is not very fragrant until it is cut or scraped, when it becomes highly agreeable. It is not much thicker than the skin of a Gooseberry, and contains five cells, filled with a very acid pulp, resembling that of the "Lime." It will no doubt make an excellent preserve.

According to Siebold, the species, which is cultivated by the Japanese, acquires the height of from five to eight feet, and forms a close round head, raised a few feet above the ground. He describes both this and a sort with a spherical fruit; and says, that the fruit and rind eaten together are very agreeable; adding, however, that they leave a burning aftertaste. It is too acid for an English palate.—(*Horticultural Society's Journal.*)

NEW AND RARE PLANTS.

Ananas bracteatus (*Scarlet Pine Apple*).

This is a brilliant stove plant. Probably only a variety of the common Pine Apple.—(*Botanical Magazine, t.* 5025.)

Sonerila speciosa (*Showy Sonerila*).

A lovely species from the Neilgherry Hills, in the Madras Presidency. Introduced by Messrs. Veitch, of the Exeter and Chelsea Nurseries. Flowers, bright rose colour. Requires a warm greenhouse.—(*Ibid. t.* 5026.)

Cordia Ipomœæflora (*Ipomœæa-flowered Cordia*).

A small tree, native of Central America; flowers, white, large, and numerous. Blooms in the summer. — (*Ibid. t.* 5027.)

Grammatocarpus volubilis (*Twining Grammatocarpus*).

Native of Chili. Flowers, yellow.—(*Ibid. t.* 5028.)

Cosmanthus grandiflorus (*Large-flowered Cosmanthus*).

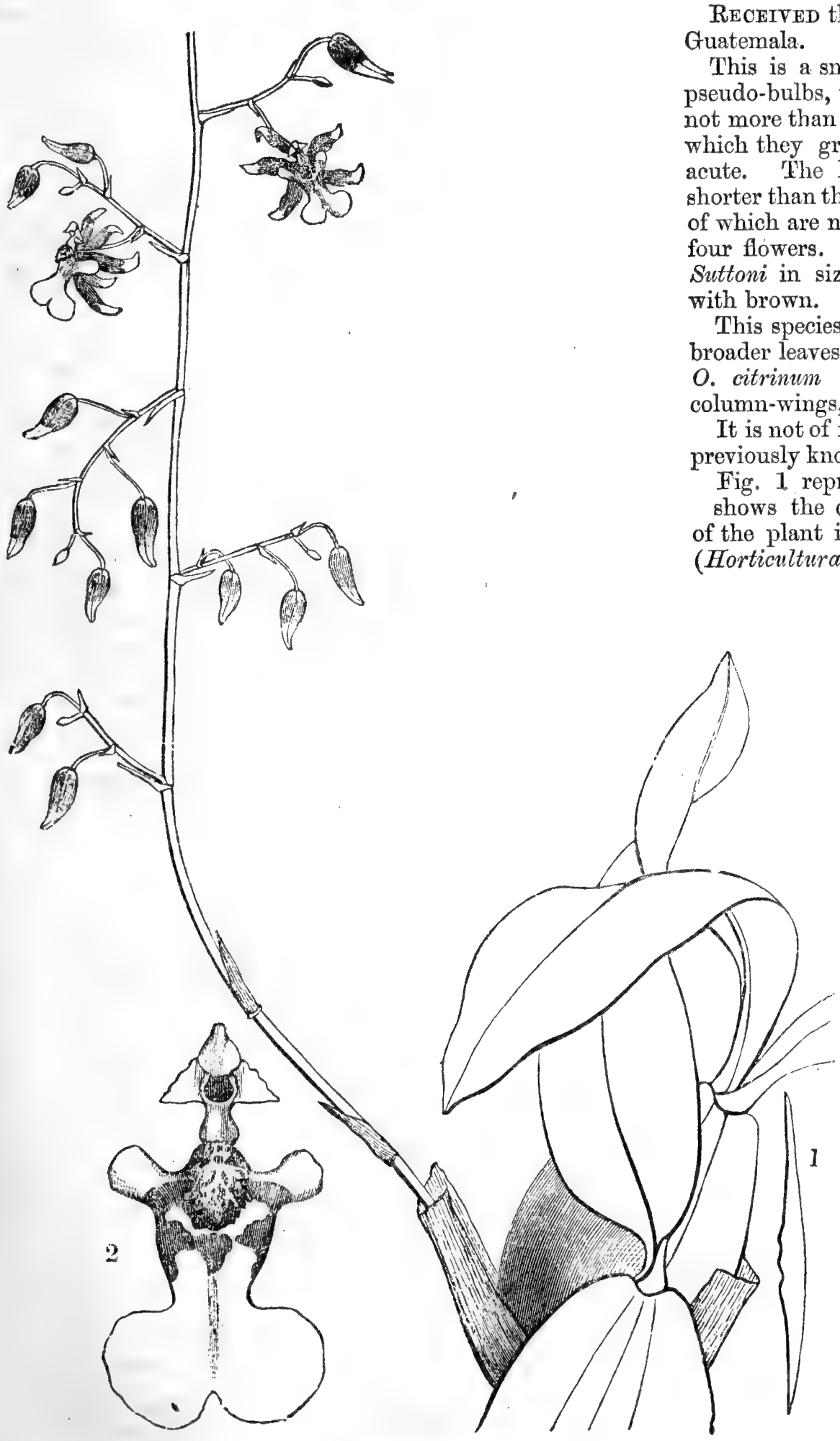
Discovered in California by Mr. Douglas during 1834; but lately introduced by Messrs. Veitch. Flowers, pale, dull purple.—(*Ibid. t.* 5029.)

OXALIS BOWIEI AS A BEDDER.

I am pleased to add my testimony as to the merits of this plant, which has been mentioned by Mr. Beaton. I have grown it successfully for several years; and consider it deserves a place in every flower garden. Were its merits more fully known as a bedder of the first class, I am persuaded it would be more generally grown for that purpose. Hitherto, with few exceptions, it has been grown only as a greenhouse bulb, blooming in the early spring months: but to develope its full beauties, I consider it should not be confined to a pot, but turned out into a bed of good, fibrous, loamy soil, with a good portion of leaf mould and sand added. It will then continue blooming, in great profusion, till late in the autumn.

One great recommendation in its favour, and especially to those who have but limited means for wintering bedding plants, is, that it requires no extra care in the winter. My practice is to take up the bulbs about the middle of November to dry; and store them away like Tulips, until the third week in March; and then to pot them in a mixture of loam, leaf mould, and sand, two bulbs in a 32-sized pot, covering the bulbs about two inches. The pots are then plunged in a nice gentle bottom-heat; and in about a month they will commence growing. As soon as two leaves make their appearance, the plants are gradually hardened to the cold frame; and the first flower stems secured to a small stake, which keeps the plants steady. By the first week in June they are in full bloom; and are turned out of the pots into a bed of the above-named compost, producing an immediate effect; and are seen to the best advantage during bright sunshine. The situation for the bed should be sheltered from the wind, and fully exposed to the morning sun. The late hot summer has been very favourable for its growth; and the bulbs have increased fourfold, many of them being as large as *Van Thol* Tulips. Of these large ones I intend putting only one in a pot; as I have never found the foliage to overbalance the flowers, except when they had been planted too closely together.—William Adderley, *Yotes' Court, Mereworth, Kent.*

ONCIDIUM TENUE.



Oncidium tenue.

Received through Mr. Hartweg, in February, 1841, from Guatemala.

This is a small Oncid, remarkable for its exceedingly thin pseudo-bulbs, which, although two or three inches long, are not more than one-eighth of an inch thick in the middle, from which they gradually fine away into an edge, which is almost acute. The leaves are thin, oblong-lanceolate, and much shorter than the slender narrow racemose panicle; the branches of which are nearly of the same length, each bearing three or four flowers. The latter are not unlike those of *Oncidium Suttoni* in size and colour; that is to say, yellow, mottled with brown.

This species is distinguished from *Oncidium suave*, by its broader leaves, and acutely triangular column-wings and from *O. citrinum* by its roundish oblong pseudo-bulbs, large column-wings, broad leaves, peculiar habit, &c.

It is not of much beauty, but adds something to the variety previously known among the species of its own division.

Fig. 1 represents a transverse section of the pseudo-bulb; shows the column and lip magnified. The representation of the plant itself is much reduced below the natural size.—(*Horticultural Society's Journal.*)

REPLANTING ESTABLISHED VINES.

You have had some correspondents asking for advice as to the best plan for replanting established Vines. The following plan I have found to answer:—Suppose the Vines to be replanted had generally started for forcing the first week in March, I should take them up the first or second week in February; lay them in by the roots, in some sheltered place; then remake the border the first week in March; make a hotbed one foot six inches thick; and after the heat had gone down to about 88° or 90°, cover the bed about three inches thick with decayed leaves. I should then take the Vines, and lay the roots rather closely together on the bed; cover them two or three inches with decayed leaves, and finish with a covering of dry leaves or straw. The tops must be secured to stakes, or some other contrivance; which must be in the open air, for they must not be excited. In three or four weeks the old roots will have produced a mass of fine young fibres. Plant them carefully in the new-made border; place some fine soil over the roots and under the roots; give a good watering with water at a temperature of about 100°, and after that, a good covering with dry leaves or straw; place the tops of the Vines inside the house, and they will scarcely know they have been shifted.

When I plant young Vines, I place them

on a bed as above; and it is surprising the mass of roots they make. There is no check; for the roots are ready for the leaves, which unfold very strong.—J. A. L.

[There can be no question of the success of the mode you detail, if the whole minutiæ are attended to. An error in these minutiæ will be dangerous; and, besides, when thoroughly attended to, you gain no more than might be attained in the autumn without such minute attention. We have several times, on a small scale, practised a similar mode, but we have always been afraid to recommend it; because when we once did so, our acquaintance let his dung-bed get so hot, that the roots were thoroughly done for. Your letter is very interesting, as showing that there are gardeners among us, who, instead of being the slaves, or the creatures of circumstances, can make these circumstances bend to their will and pleasure. It was recorded the other year, that Mr. Thompson, of Dalkeith, raised and replanted his Vines in May and June, secured what fruit he chose to leave, and such fresh-made wood as bore a full, heavy, general crop the season following. We should not greatly err if we said, that with your knowledge and attention, you could raise and transplant Vines at any period. But just because we despair of many of our readers being able to give that attention, we would be a little cautious in recommending such a plan to their notice. There are also fair counteracting influences. Many Vines are so planted, that they could not be taken out of the house without difficulty. We have alluded to the care necessary for the hotbed. It frequently happens, that February and March are not very propitious months for doing fresh work in making borders. We must expect the ground at that time to be very cold indeed. The success of the plan greatly depends on allowing the roots to receive no check; and this you guard against by heating the border before or immediately after the roots are laid out, with a copious watering, with water at 100°. But what if the soil is already soaked with rain or snow; or by either means so cooled, that raising its temperature would make it like a morass; the very excess of moisture, having a tendency to rot, and destroy the very tender fresh spongiolets? True, this might be partly guarded against, by using canvass, &c., for keeping the border dry; but then this is again having recourse to minutiæ. In planting under such circumstances, we would prefer covering the roots with the decayed leaf mould warm from the bed, instead of fine soil at first, just because we have frequently noticed that roots once used to such open material, will frequently die back, when placed at once in contact with soil, however fine. You recommend, and rightly, a covering with dry leaves and straw, to keep in the heat from your hot watering; and, we presume, to throw some heat in likewise, in order that the part below ground of the Vines, may be in full activity before the buds begin to swell by the heat of the sun. You do not say whether this covering of dry leaves and straw is intended to *heat* the border or not. If the leaves are very dry they will not heat it much; and even if they are dampish, the heat will not penetrate into the soil to any great depth, unless the covering is thick and heats violently. A depth of fifteen to eighteen inches of leaves, neither wet nor dry, would secure a medium temperature of from 55° to 60° to your border, at, say, six inches from the surface; and your new roots will not be much deeper than that at first. That temperature could not be given from the hot water alone: and if by any means the roots are chilled, there would be the danger of a severe check. Now, if, after all, the covering is to give a main chance of success—though we look upon your system as valuable, as showing what may be done, and done successfully, in extreme circumstances; we do not see why we should not succeed equally well, by just replanting the Vines a month earlier, without any extra soaking of water at that time; and then make this "*good covering*" so efficient as a heating medium, that the upper eight inches or so of the border should range from 55° to 70° in temperature, and thus the roots be excited with the least chance of their receiving after-checks. Then, the question returns again, When is the best time for performing the transplanting operation, attended with least trouble, and with fewest risks of failure, when the work is to be done by comparatively inexperienced hands? And here, with all due deference, and with many thanks for the detail of your system, which we have no doubt will answer well, we must say that we prefer the autumn, from the middle of September to the middle of October; and, other things being equal, the earlier the better; and chiefly because the wood then will be pretty well matured; the foliage that may remain will help the rooting process; but chiefly because the earth is so warm, that roots will be formed in abundance before winter, and especially if any means are taken to keep off cold rains, and prevent radiation of heat during cold nights. A slight covering of leaves, &c., will enable the underground part to keep working all the winter. A thermometer or two, fixed in the border, will enable you to judge of its temperature to a nicety, at any time. The mode adopted by Mr. Judd, at Althorp, and especially with his early vineries, is one well worthy of imitation. Pipes of iron, or earthenware, are placed in a line longitudinally along the border, and several inches below the surface. A thermometer is placed in these pipes, fastened securely to a long pole, and may be drawn out and examined at pleasure.

It is of importance, in the case of all transplanted Vines, that the roots should be in full action before the tops are excited. "J. A. L." secures this. Planting in autumn does the same. But though these are our present ideas, we are not the less thankful for "J. A. L.'s" views; and we hope several readers will act upon them, and report accordingly.]

LIST OF PHLOXES.

I now send you, as promised, for publication in your valuable paper, a list of twenty-four Phloxes: some of them, as a keen amateur, I consider first-class, and all well worth growing. I grow thirty-six sorts; and those sent are the pick. *Baron Joe*, may not come up to the standard as to form, but it is very striking.

I give the colours; but will say nothing as to the heights of the different sorts, as I have not paid particular attention to this, and might mislead. I am not far wrong, however, in saying that from two to three feet is about the average.

I grow them in one straight row, as a backing for a herbaceous border of moderate growth (no coarse plants); and I consider they produce a finer effect than when planted in beds. I have a *suffruticosa* and *decussata* turn about, which keeps up a succession.—Wm. McWardrop.

Twelve Varieties of Phlox Suffruticosa:—

Addisonii, white, centre light carmine.
†*Countess of Morton*, pure white.
†*Countess of Home*, white, crimson centre.
Roi de Léopoldii, striped.
Abdul Medschid Khan, rosy blush.
Prima Donna, pale rose lilac.
†*Colonel Dundas*, purple.
Leonida, rosy purple.
†*Purpurea nova*, dark rosy purple.
†*Princess*, light rosy puce.
Purpurea magnifica, rosy lilac.
†*Mrs. F. Winfield*, lilacky puce.

Twelve Varieties of Phlox Decussata:—

†*Madame Fontaine*, white, very bright pink eye; excellent.
†*Madame Clarisse Fontaine*, white, pink eye, fine form; excellent.
†*Madame Albertine*, white, rosy eye.
Exquisite, shaded blush.
Baron Joe, white, red eye.
†*Princess Mathilde*, rosy lilac.
Admiral Linois, deep rose, carmine centre.
†*General Brea*, rosy scarlet.
Lychniflora, rosy purple, carmine centre.
Madame Shibaud, rosy purple, deep crimson eye.
†*Madame Thomanii*, dark crimson.
†*President McKarol*, rosy crimson.

ROOKERY SOIL FOR AMERICAN PLANTS.

Having had a few years' experience in using the above-named soil, I can highly recommend it as a substitute for bog soil for American plants.

Being situated some dozen miles from any good bog soil, and having an extensive rookery close at hand, where the surface of the ground had not been disturbed for years, I found there, to the depth of about nine inches, a nice light soil, or manure, composed of soil from the rooks and rotten leaves. I then had the surface shovelled, and laid in heaps. Two years ago I planted 200 Rhododendrons, Azaleas, &c., in the above soil, about four spadefuls to each plant; and it is really astonishing how well they have thriven. The Rhododendrons made a vigorous growth during the last two summers, and have now a beautiful dark-green foliage, and all thickly set with flower-buds. Of the two, I prefer the soil in question to bog soil for flowering Rhododendrons, Azaleas, &c. I now use it for potting American plants for forcing; likewise Roses, in which all flower beautifully. I have also found it to answer well for flowering Geraniums, Fuchsias, &c.

This is the proper season for collecting the above soil, when all herbage is dormant. Lay it in heaps on the ground, or cart it at once to the compost ground, where it will be found a most valuable light material for general use.—I.T., *Gardener to Sir R. W. V.*

PHOTOGRAPHY AND GARDENING.

The arts of Photography and Gardening are intimately associated. In these days of competition, the cobbler who sticks to his last, and neglects scientific information bearing on his business, finds himself ere long in the background. The market gardener, as he earths up his Celery, or ties in his Lettuces, performs unwittingly a photographic experiment. In the one case he deprives the juices of the plant of the colouring influence of the actinic rays of light by encouraging growth in darkness. In the other, he encloses the heart of the Lettuce in an envelope of green leaf, which permits the passage of but little photographic energy.

In "Photography for the Many" we have attempted to show the distinction between light, heat, and actinism, which all exist in a ray of light.

Now, it is *Actinism* which produces the *development* of the plant from the seed: *Light* causes its *progression:* and *Heat* communicates *colour* and *perfection.* Hence, a seed sown under a bellglass, with a blue shade, will come up rapidly, for *blue* allows the free passage of the *actinic* rays. The *progressive* power of light is obtainable chiefly from the *yellow* rays; and heat (producing colour and perfection), is communicated with greater rapidity from a *red* medium. The relative proportion of light, heat, and actinism in spring, summer, autumn, and winter is best explained by the following diagram:—

	Spring.	Summer.	Autumn.	Winter.
Actinism or Chemical power. (*Development.*)	12.	6.	5.	10.
Light or Luminous power. (*Progression.*)	9.	15.	8.	10.
Heat or Colouring power. (*Perfection.*)	9.	9.	17.	10.

The question then arises, Can we not, by a careful consideration of these properties of light, produce finer flowers and vegetables? What would be the effect of raising seeds in blue light, continuing their growth under the influence of the yellow rays, and perfecting their colour and form in a red atmosphere? This may be considered very artificial; but do we not now produce our finest flowers by unnatural processes?

We may certainly theorise at great length, and produce no good effects; but by practically working out our scientific convictions, we may expect great successes. The celebrated engineer, George Stephenson, an eminently practical man, owed much of his success to careful consideration of theory. Mr. Stephenson was staying at Sir Robert Peel's; and while talking with Dr. Buckland on the terrace of the mansion, a train flashed along in the distance. "Now Buckland," said Mr. Stephenson, "I have a poser for you. Can you tell me what is the power that is driving that train?" "Well," said the other, "I suppose it is one of your big engines." "But what drives the engine?" "Oh, very likely a canny Newcastle driver." "What do you say to the light of the sun?" "How can that be," asked the doctor. "It is nothing else," said the engineer: "it is light bottled up in the earth for tens of thousands of years—light, absorbed by plants and vegetables, being necessary for the condensation of carbon, during the process of their growth, if it is not carbon in another form. And now, after being buried in the earth for long ages in fields of coal, that latent light is again brought forth and liberated—made to work, as in that locomotive, for great human purposes."*

When a working engineer, George Stephenson was famed for his "gigantic Leeks" and "astounding Cabbages." To scare away the birds, he invented a "fley-craw:" and to his garden door was attached a piece of apparatus which prevented anyone but himself from opening it. When a rich man, his love of gardening continued. He then had immense houses, his Grapes and Pines taking good prizes at home and abroad. He was very particular as to the regulation of heat *and light* in his houses; and "bothered" his Cucumbers with glass tubes. He took the strain off the stems of his fruit by suspension in wire gauze baskets: hence producing magnificent specimens.

Your correspondent "S. P." has written on the subject of Photography in its common-sense aspects. Since his article was published, the researches of science have added some most interesting facts to this study. The statement we made as to the distinction between light and actinic force has received abundant confirmation. M. Chevreul has presented to the Academy of Sciences an account of various experiments by that indefatigable observer, M. Niepcé, some of which will be interesting to our photographic readers.

An engraving, kept for many days in the dark, is brought out into the full glare of sunshine, and one half only exposed to the light. On its withdrawal to the dark room, it is placed in contact with photographic paper of extreme sensibility; and, after some hours, a negative copy of the exposed part of the engraving is produced *in the dark.*

The same engraving applied in the same manner, without previous exposure, produces no effect whatever.

If a sheet of glass be placed between the energised engraving and the prepared paper, no effect is produced: but absolute contact is not necessary to produce an impression. M. Niepcé describes his accumulator as a metal tube closed at one end, the interior surface being covered with white paper. The tube is then placed in the sun for an hour, its open end being uppermost. It is then removed to the dark room. The sheet of prepared paper is laid on a table; over it, an engraving on thin paper, face downwards: then the tube, the closed end uppermost. The boxed-up actinic force (or light power), produces a copy of the engraving. Hermetically sealed, a tube of actinism can be preserved indefinitely.

A piece of *unprepared* cardboard was placed in the camera frame, where it remained three hours exposed to the image produced by the lens.

It was then removed, and placed on sensitive paper; and after some time the subject focussed was produced.

From these experiments we learn that actinic light is *absorbed* by some bodies which *give it off in darkness.* Engravings kept in darkness, and exposed to sunshine, become charged with photographic power. This power may be extracted from the sun's rays, and kept stored up ready for use at a future time. Hence there is a scientific possibility of importing the power of sunshine into this our muggy climate. Truly we live in an age of wonders.

We conclude with a few ideas borrowed from Professor Hitchcock.† Light travels at the rate of 200,000 miles a second. A flash from a cannon fired on our earth would not arrive at the sun till eight minutes afterwards; and it would be *four thousand years* in arriving at a star of the twelfth magnitude. Suppose an inhabitant of the last-named star, with sight allowing him to observe distinctly what occurs on the surface of our world, he would be a spectator of what was happening here 4000 years ago. Hence, from the various heavenly bodies is obtainable an illustrated history of this our

* Smile's "Life of G. Stephenson."
† "Religion of Geology," pp. 344, 345.

earth; and should we possess this gift of vision in another existence, what an interesting study of worlds will open out to us! In the following sentence Professor Hitchcock anticipated the experiments we have just detailed:—"The foulest enormities of human conduct have always striven to cover themselves with the shroud of night. The thief, the counterfeiter, the assassin, the robber, the murderer, and the seducer feel comparatively safe in the midnight darkness, because no human eye can scrutinise their actions. But what if it should turn out that sable night, to speak paradoxically, is an unerring photographist!" "It is as if the universe were one vast picture gallery; in some part of which the entire history of this world, and of each individual, is shown on canvass, sketched by countless artists with unerring skill." "Wonderful—wonderful are the position man occupies, and the part he acts!" "We may indulge the thought as highly probable that our friends, who have gone before us into the eternal world, may be as familiar with our conduct, our words, and even our thoughts, as we are ourselves. If we are acting as we ought, this must be an animating idea: but if we are not, let it serve to stimulate us to our duty, if a sense of the Divine omniscience is not sufficient."—Edward A. Copland, *Chelmsford.*

HISTORY OF THE FLUKE KIDNEY POTATO.

In a late number of The Cottage Gardener, you requested information respecting the origin of the *Fluke* Potato; and, being in possession of the history of this highly esteemed variety of Potato, that seems to be the pet of the day, I beg to forward you the following remarks respecting it:—

Until 1854, very little had been heard of this Potato; so that, I apprehend, many will be greatly astonished when I point out that it is now sixteen years since it was first raised from seed. It is supposed by some persons to be a cross between the *Pink Eye* and *Lapstone Kidney;* but the following statement plainly contradicts it:—John Turner, a handloom weaver, and occasionally a farm labourer, of Birch, near Middleton, Lancashire, first raised the *Fluke* from a seed-apple, taken indiscriminately from a field of Potatoes grown on the Langley Hall farm, and near his residence, in 1841. He sowed the seed in his own small garden, and it produced twelve plants—one of which was the *Fluke;* the others, being of little value, were thrown away. He grew the *Fluke* several years, and occasionally made presents of tubers to his friends: amongst others, to a neighbouring farmer, who has sold large quantities of them; but Turner himself never made one farthing by them in the way of trade.

In 1852 a subscription was got up for him, chiefly through the exertions of Oswald Dicken, Esq., surgeon, of Middleton; and Mr. John Lanckshire, farmer, of Little Heaton; to which the Earl of Derby subscribed £10, and the Earl of Wilton £5. The amount raised was £115, with which a small life annuity was purchased for him; but this he only enjoyed a very short time, as he died on the 28th of February, 1854, aged seventy-two years.

As before stated, Turner never knew from what variety he took the seed-apple; but the proprietor of the Langley Hall farm says he never grew the *Lapstone*, neither was it ever grown in the neighbourhood; but at the time the seed was taken he was growing the *Pink Eye;* and to this variety the *Fluke* has some resemblance, more especially in the eye.—Edward Bennett, *Gardener to Sir O. P. Wakeman, Bart., Perdiswell Hall, Worcester.*

THE ENTOMOLOGICAL SOCIETY'S MEETING.

The January Meeting of the Entomological Society was held on the 4th instant; the chair being occupied by William Wilson Saunders, Esq., F.R.S., Treasurer of the Horticultural Society, &c.; who announced that, at the Anniversary Meeting on the 25th instant, the Council intended to propose that Dr. J. E. Gray, Head Keeper of the zoological department in the British Museum, should be nominated as the President for the ensuing year. He also mentioned the alterations intended to be made in the list of the Council.

Mr. Mason exhibited a specimen of the root of *Monizia edulis*, of Lowe, a plant from the Deserta Island, near Madeira; which, although apparently dead and dried up, had thrown out some sprouts at the crown. These sprouts had immediately been attacked by specimens of the mealy bug, which had been developed at the same time. The plant itself is an edible one, used in the same way as Arrowroot.

Mr. Waterhouse exhibited some specimens of *Atomariæ*—beetles well named from their atom-like size; but which had, nevertheless, raised an angry discussion between Mr. Ianson, the Secretary of the Society, and Mr. Waterhouse; the latter affirmed that he had discovered the species previous to their having been detected by some friend of Mr. Ianson, who claimed the merit, such as it was, of the discovery.

Mr. Douglas exhibited a portion of an oak flour barrel, manufactured in America, which had been attacked and rendered useless by a small beetle belonging to the family *Bostrichidæ*, which had eaten the softer parallel layers of the wood, making a number of rows of small oblong holes.

Mr. Stevens exhibited a number of very beautiful insects, chiefly *Lepidoptera*, recently sent from Egæ on the river Amazon, by Mr. Bates; including a new species of *Papilio*, a new *Hetæra*, together with numerous interesting *Tineidæ*. The *Coleoptera* and *Hymenoptera* were amongst the most interesting and beautiful which he had hitherto collected.

A conversation took place on the proposed plan for marking the proper pronunciation, and assigning the true derivation of generic and specific names in entomology. Captain Cox also entered into some details relative to the cure of the Elm trees attacked by the *Scolytus destructor* in the Regent's Park, which had been effected by the adoption of the plan he had proposed; and for which he had received the prize medal of the Royal Botanical Society.

NOTES FROM THE CONTINENT.—No. 19.

FERN CULTURE.

The German gardeners are certainly in advance of the English in their cultivation of Ferns, particularly those of arborescent habit: it may not, therefore, be uninteresting or entirely devoid of profit, if I devote one letter to this subject. In doing so, I shall not confine myself to the method practised in any one garden, but narrate whatever may appear worthy in the plans pursued in any of the places I have seen. To begin at the beginning: let me tell you of a successful way of raising them from spores. A cube of turfy peat, an inch and a half square, which has been dipped in boiling water to destroy all life, either animal or vegetable, that may be in it, is laid in a flat saucer, or "feeder;" the spores sprinkled upon its upper side; a small quantity of water poured into the saucer, and then covered with a bellglass. A little water must be added from time to time, as evaporation carries it off, taking care to pour it in without washing the spores off the turf; and in a short time (on the average four to six weeks), a green moss-like substance will cover the turf; and gradually young fronds will develope themselves. Some tree Ferns (which were, I believe, first raised from spores in the Botanic Garden here), take a longer time; and will even lie for ten months without giving any signs of life.

It is astonishing how quickly some Ferns will grow when raised from spores. I have seen several specimens of *Cibotium Schiedii*, which made their appearance within a fortnight after sowing; and in six weeks had made distinct fronds. These plants, when I saw them, were not quite five years old; and yet they had fronds nearly nine feet long, and half that in width; with a crown (from which fourteen such fronds sprung), twelve inches high, and five in diameter. I do not think this Fern is so well known in England as it deserves to be. The glaucous colour of the under side, together with its gracefully drooping habit, renders it one of the most beautiful of this family. It was discovered some thirty years ago by Schiede and Deppe while travelling in Mexico.

The best plan with newly-imported tree-fern stems is at once to pot them, and then to place them in a moderately cool place, until they show signs of growth; when they may

gradually receive a greater share of heat and moisture. I have seen them succeed equally well in peat and in loam. In fact, I think they are not so particular on this point as they are with regard to the texture of the soil: it must be light, porous, and open; well drained, and with plenty of brick rubbish mixed with the turfy soil. A common stove temperature suits the majority of them; but on this point the gardener must be guided by that of the country of which his plant is a native. You will not have so much trouble as we have in keeping moist the atmosphere in which they are placed. Here we syringe several times a day: but it must not be forgotten that unless the fronds are now and then allowed to dry, they will become spotted, which greatly impairs their appearance; and the crowns should never be wet, or the young fronds will be crippled. But at all times it is best to keep the stems damp; as, many of them being covered with roots, they absorb part of their nourishment in that way. Some gardeners cover the stems with damp moss to increase the growth of these stem-roots. Others say, that if the plants are artificially induced to make too many there, those below die; and the plant is, consequently, lost: so that this plan is not so generally used as formerly. They should not be too often repotted; the roots being so very brittle, they are necessarily damaged. It is better, therefore, to give them a good shift when they really need it. As regards watering, if the drainage is good, it cannot easily be overdone; and on the other hand, if they are once allowed to flag, it will seriously damage them. Those plants which have well filled their pots or tubs with roots, may, with great advantage receive, once a week, a little manure-water—but it must be *very weak*. With this, also, the stems may be occasionally syringed. They require shading during the brightest weather in summer.—Karl.

QUERIES AND ANSWERS.

HARDY CONIFERS.

"Will you tell me whether there are any more recently discovered Conifers than the following:—Cupressus Lawsoniana, Pinus nobilis, P. flexilis, P. McIntoshiana, P. Balfouriana, and P. Fremontiana? Is there any written account of Conifers, both those of older sorts, and those more recently discovered, to be had?"—C. P. C.

[The *Pinus nobilis* of Douglas is a Fir, or spruce Fir; and belongs to *picea*, not to *abies*. To confound the two—*picea* and *abies*—as Dr. Lindley has done, is a step backwards. It was introduced in 1831. *P. flexilis* is yet, we believe, a doubtful species of New Mexico. *P. Fremontiana* was introduced from California ten years since.

P. Royleana was recently introduced from northern India by the Horticultural Society; but proves to be an American kind which was introduced to India. (See vol. xviii. p. 253.)

P. Jeffreyana from California, is in the Clapton Nursery; as also *P. Parryana*—two American names, which, we believe, have not yet been settled in this country.

P. Beardsleyana and *P. Craigiana* were introduced from California by Mr. Murray, of the "Scotch Expedition."

The most recent, and by far the most important work on Conifers, is a French work called A General Treatise on Conifers, ("Traite Général des Conifers,") by M. Carière, of Paris. He enumerates and describes nearly four hundred species, with their synonymes; also many varieties. In short, he gives the culture, the propagation, and the history of every known Conifer, down to the publication of his work two years since. In our own books and periodicals there is no end to the writings on Conifers. The question is not where to find information on Conifers, but which is the most trustworthy and the most practical.]

COVERING AN OLD STEM.

"Can I find a bright and pretty climber to grow in the shade, to cover the trunk of an old Fir tree, which stands in the centre of a little flower garden?"—A Constant Reader.

[There is nothing better than our native Honeysuckle for such a purpose; but if it is desired to get rid of the rugged appearance of the stem of the old Fir tree, the best mode would be to cover it all over with Irish Ivy, and to train one of the Ayrshire, or evergreen, Roses over the Ivy. *Ruga* is the best for this purpose; as, when once you get it up to the boughs, it will hang down "of itself" in tresses to the ground. But if you had told us in what part of the world, or in which of the counties, your garden is, we might advise differently. All "Constant Readers" of The Cottage Gardener have been told many times, that all the gardeners in this world cannot tell what will suit, or not thrive in, a place or garden, unless they have some idea where the place is.]

ROSES IN A DAMP OVERSHADOWED GARDEN —CYCLAMENS NOT BLOOMING.

"My garden is a long, narrow, damp strip, barely twenty yards across: with a row of trees on each side, not belonging to me. The stocks of my standard Roses are constantly covered with green lichen. Is it worth while washing them? and what is the best composition for it?

"My grass, in spite of dressing and sowing, according to your advice, and in the worst parts renewing it with turf, becomes covered with bare patches every winter, over which a green, unhealthy lichen grows, and seems to prevent the grass from springing up again in the summer. I am afraid its situation places it almost beyond your relief; but if you can suggest any remedy, you will greatly oblige me.

"For several years my bulbs of *Cyclamen Persicum* have been complete failures; though I have carefully searched for, and attended to, all your instructions concerning them. They generally have broken well, and seemed full of small buds, which all damp off almost as soon as they are visible; and nothing is matured but a thin crop of leaves, which look healthy enough. The bulbs, however, grow, and make pretty good roots. Two years ago I had given to me about six seedlings, as large as a sixpence. I have treated these precisely in the same manner, and they have stood side by side with the old ones. They nearly all flowered last year; and this year, each of them has from thirty to forty flowers, and healthy buds, upon it. Are the old bulbs worn out? They seem firm and healthy, and are about three inches across. They were sent *dry* from Holland; which, I think, ruined their constitution. A gardener told me that if I divided each into three or four, they would do well."—Eton College.

[There are hundreds of such-sized gardens as this one, with large forest trees on each side, and across the farthest end, where Roses do exceedingly well. We were looking over just such a garden this week, in which a very large number of Roses, of all sizes and ages, do remarkably well on the Dog Rose and Celine Stocks. We saw two rows of cuttings of the latter, between rows of Currants or Gooseberries, in the kitchen garden part, which were moulded up as high as Potatoes, with about an inch of the tops out above the ridges. It is the nature of the bottom soil, more than the confined space, which affects your Roses; and unless it could be well drained, no art will keep the Roses in good health. Fresh slaked lime is the best wash for all kinds of trees and bushes that are infested with lichens or moss, or any similar kind of vegetation; and a little soot mixed with it to make the wash a dark grey, renders it less glaring to the eye; and a little flower of sulphur is good for such plants or trees as are liable to the red spider. About February is the best time to apply such preparations. If the trees on each side are old Elms, their roots may have possession of the subsoil, and starve it that way. If so, it might be easier to cure; as a deep trench two feet wide, made under the side walks, would get rid of the roots for a time; and a recourse to this cutting would always be remedial, at no great cost. The idea is much more heavy than the job itself, speaking from our own experience.

All that can be true about these Cyclamens, is, that the roots or bulbs were not in active health at the time they dropped the flower-buds; but the cause of the loss of vigour may be owing to one of many things. But from the fact of their making healthy leaves, there can be little doubt but

they will bloom yet, freely enough. We never could succeed in getting healthy plants from dividing the bulbs of Cyclamens.]

TO CORRESPONDENTS.

Dr. Bevan (*H. W. N.*).—Dr. Bevan is still alive; but blindness and other inroads of time have disabled the venerable apiarian.

Quince Stocks (*W. Belfast*).—Write to Mr. Rivers, Nurseries, Sawbridgeworth, Herts.

Cocoa-nut Fibre (*H. A. S.*).—Write to "The Manager, Cocoa-nut Fibre Manufactory, Kingston-on-Thames."

Sulphur Composition (*T. T. S. H.*).—The mixture recommended for the destruction of the Vine scale, will not injure Peach trees, if used for painting them. We do not know what will prevent the grubs attacking your Apple and Raspberry buds.

Illustrated Book of Plants (*L.*).—Buy "Loudon's Encyclopædia of Plants."

Names of Plants (*An Old Subscriber*).—We believe the following are the names:—1. *Evernia prunastri.* 2. *Borrera ciliaris.* 3. *Ramalina fraxinia.* 4. *Marchantia polymorpha.* 5. The pretty little *Peziza coccinea.*

THE POULTRY CHRONICLE.

POULTRY SHOWS.

February 3rd and 4th, 1858. Preston and North Lancashire. *Secs.*, Mr. R. Teebay and Mr. H. Oakey, 25, Fishergate, Preston. Entries close January 16th.

February 10th and 11th. Ulverstone. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

February 16th, 17th, and 18th. Wellington, Salop. *Sec.*, Mr. T. W. Jones, Church Street, Wellington, Salop. Entries close Feb. 8th.

February 22nd and 23rd. South-East Hants. *Sec.*, Mr. James James, Fareham. Entries close February 10th.

February 25th, 26th, and 27th. Hereford. *Sec.*, Mr. Thomas Birch, Hereford.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

THE CENTRAL NOTTINGHAM EXHIBITION OF POULTRY.

(*Continued from page* 271.)

Perhaps it would be difficult to point out any among our many public Poultry Shows where the active exertions of an enterprising Committee have been rewarded with an equal amount of success as those of the Central Nottingham.

The arrangements this season supplied all the deficiencies of the one previously held in the Mechanics' Hall; a very large temporary building, well-lighted from the roof, being this year added for the accommodation of the poultry: whilst the plan of placing each class in the same tier of pens prevented the possibility of any complaint as to disadvantage of light, or position, influencing the awards. The pens, also made use of, were sufficiently commodious—a feature which should never be lost sight of, as tending far more than is commonly supposed to both the present and the future well-being of the poultry competing. The whole interior of the building was tastefully adorned with evergreens; and the general attention paid to the feeding of the poultry was all that could be wished for by the most anxious exhibitor.

The competition in the *Spanish* classes was a severe one; Messrs. Fowler, Botham, and Rodbard, securing the money premiums; closely pressed by various Highly Commended pens.

The *Grey Dorkings* were a very distinguishing feature of this meeting, and most of the principal breeders of this really useful table-fowl competed. The specimens of Mr. Henry Smith, of Cropwell Butler, were extraordinarily weighty birds, and secured for their enthusiastic owner both first and second prizes in the class for pens of three birds; and also first prize in that for single cocks. Among the Highly Commended birds were several pens quite capable of securing first prizes at the generality of our Poultry Shows—pretty sufficient proof of the unusual excellence of the fowls exhibited. Among such was a pen containing a cock of extraordinary general perfection (No. 57); but the spurs were literally standing on the outside of the legs—a glaring malformation, and one which our home-experience proves is frequently hereditary.

The *White Dorkings*, as at most of the Shows of late, are evidently fast improving both in size and conformation.

The *White Game* fowls were of the accustomed excellence, for which the Nottingham Shows are notorious; but many of the *Pile Game* were matched most irregularly. The *Black-breasted and other Red Game* were distinguished by the Judges as "an excellent class," and well they deserved the encomium; for rarely so closely-disputed competition has existed. The same may be said as to *Duckwing Game.* And it is well here to observe, that some four or five pens of otherwise undeniable fowls, lost all hopes of position from a careless selection as to matching the colour of the legs—a feature which must ever correspond, or success is impossible. There were also some first-class *Black* and *Brassy-winged Game.*

In *Brahmas*, the general irregularity of character, for which this class is now proverbial, was strongly manifested; still, there were exhibited many most highly-deserving individual specimens.

None of the *Hamburgh* classes were particularly distinguished; nor was their general condition equal to our expectations.

The *Malays* were superior, and the competition generally good.

All classes of *Cochins* were well represented; but we cannot allow the present opportunity to pass without drawing the attention of owners to the necessity of avoiding "waived" combs.

The *Poland* classes were an exhibition in themselves; the *Blacks* were particularly good.

The extra class contained some of the best *Silky* fowls we ever met with; the *Black Hamburghs*, and also the *Andalusians*, being likewise highly creditable.

The *Sebright Bantams* were both numerously and well represented, the *Golden* undoubtedly being the more perfect class of the two. In *White*, and also *Black* Bantams, there was no lack of really superior specimens; in the latter variety, Mr. Hawkesley (as usual with that gentleman on all late occasions), stood far advanced before his rivals. The safe return of these unquestionably beautiful birds, was insured by their being entered as "not for sale;" or many were the wishes expressed to obtain them.

The *Ducks*, *Geese*, and *Turkeys* were such as would have raised the character of any Poultry Exhibition. In the latter class, we are informed that *each* of the trio of successful pens, had previously never been beaten.

It is now necessary to note a feature of the meeting especially commendable, and somewhat unexpectedly, from the simultaneous competition in these classes with that at Liverpool; where the premiums offered to the successful, were of extraordinary value. We allude to the Single *Game Cocks.* The declaration of the Judges, Messrs. Hewitt, of Birmingham, and Challoner, of Worksop, will add much to the validity of our opinion, viz., "it is rarely a better Game Cock Class has been exhibited;" and, again in the second instance, "the class throughout very good." In speaking of these birds, we can truly say, rarely if ever, has competition been so closely balanced, as between the first and second prizes, the property respectively of Mr. G. Jarvis, of Bawtry, Yorkshire, and Mr. Thomas Edge, of Strelly, Notts.; nor could fowls be possibly shown in more unexceptionable condition.

The show of *Pigeons*, and also of *Canaries*, appeared especially good and popular; the *Rabbits*, likewise, called together numbers of those most interested.

The weather on the early morn of the day of opening was showery and unpromising; still the attendance of the nobility, and the general public, far exceeded that of the previous Meeting. The enthusiasm of not a few of the admirers of Game fowls, led them also to undertake a journey to the Liverpool Meeting, to test the *comparative* superiority of the two Exhibitions in this particular class; and nothing can prove how commonly such poultry is gaining place in public esteem, than the extraordinary excellence of both Shows as to these birds.

The present Central Nottingham Meeting, has, we hear, been very satisfactory: and certainly, if the most anxious desire to make it so, by paying every possible attention to the comforts of both the visitors and the poultry is deserving of such issue, the Committee have simply received the due reward of their unwearied exertions. We congratulate them

on the result, and trust future annual Meetings may be equally satisfactory. On the close of the Show, the fowls were instantly forwarded to their various destinations.

We gave the awards to the poultry last week.

PIGEONS.

A SILVER CUP, of the value of Five Guineas, for the best three Pens of Almond Tumblers, Carriers, and Pouters—E. A. Lingard.

A SILVER CUP, of the value of Five Guineas, for the best Four Pens of any variety, except Tumblers, Carriers, and Pouters—G. C. Adkins. Highly Commended, E. R. Maddeford.

POUTERS.—First, J. Firth. Second, W. Tonge, jun.

CARRIERS.—First and Second, W. Siddons. Commended, G. C. Adkins.

ALMOND TUMBLERS.—First, E. A. Lingard. Second, E. R. Maddeford. Highly Commended, J. Percivall. (The cock had a diseased wing.)

BALDS.—First, E. A. Lingard. Second, G. C. Adkins. Commended, F. A. Lavender.

JACOBINS.—First, H. Weir. Second, G. C. Adkins. Commended, C. R. Titterton.

BEARDS.—First, T. Hives. Second, G. C. Adkins.

BARBS.—First, P. H. Jones. Second, J. Percivall. Highly Commended (but not matched in colour), W. Smith.

FANTAILS.—First, C. G. Hill. Second, G. C. Adkins. Commended, C. R. Titterton.

TRUMPETERS.—First, C. R. Titterton. Second, W. W. Boulton. Commended, G. C. Adkins.

MOTTLED TUMBLERS.—First, J. Percivall. Second, E. A. Lingard.

RUNTS.—First, P. H. Jones. Second, C. R. Titterton. Highly Commended, E. A. Lingard.

OWLS.—First, H. Weir. Second, G. C. Adkins.

TURBITS.—First and Second, G. C. Adkins. Highly Commended, E. Russell. Commended, Mrs. Parkinson, and C. R. Titterton.

NUNS.—First, J. E. Maplebeck. Second, J. W. Edge.

ARCHANGELS.—First, G. C. Adkins. Second, J. Firth.

DRAGONS.—First, H. Simpson. Second, E. Bebbington. Highly Commended, Miss E. S. Killingley. Commended, G. C. Adkins, and W. Appleby. (An excellent class.)

ANY OTHER VARIETY.—First, G. C. Adkins (Magpies). Second, E. A. Lingard (Spots). Commended, W. Dolby, jun. (Red Helmets); H. Gilbert (Black Brunswick, with white bar).

The Judges considered the exhibition of Pigeons of a very superior character, and deserving of general commendation.

CANARIES.

YELLOW BELGIUMS.—First, T. Fellowes. Second, J. Bednall. Third, H. Shaw.

BUFF BELGIUMS.—First, T. Fellowes. Second, G. Tuckwood, jun. Third, J. Widdowson.

YELLOW-VARIEGATED BELGIUMS.—First, J. S. Godfrey. Second, W. Phillips. Third, J. Widdowson.

BUFF-VARIEGATED BELGIUMS.—First, J. Widdowson. Second and Third, J. Bryan.

MARKED YELLOW BELGIUMS.—Prize, S. Tuckwood.

MARKED BUFF BELGIUMS.—Prize, G. Tuckwood, jun.

YELLOW-CRESTED.—First, T. Fellowes. Second, J. Lingard. Third, L. O'Harne.

MEALY-CRESTED.—First, T. Fellowes. Second, L. O'Harne.

JONQUE LONDON FANCY.—Prize, C. Moore.

MEALY LONDON FANCY.—Prize, C. Moore.

GOLDEN-SPANGLED LIZARD.—First, T. Fellowes. Second, L. O'Harne. Third, I. Stevenson.

SILVER-SPANGLED LIZARD.—First, T. Fellowes. Second, L. O'Harne. Third, I. Stevenson.

JONQUE GOLDFINCH MULES.—First, C. Tuckwood. Second, S. Tuckwood. Third, W. Phillips.

MEALY GOLDFINCH MULE.—First, J. Lingard. Second, T. Mason. Third, C. Tuckwood.

MEALY LINNET MULE.—Prize, T. Mason.

CLEAR YELLOW BELGIUM.—Entered for Piece of Plate.—Prize, T. Fellowes.

CLEAR BUFF DITTO.—First, T. Fellowes.

BUFF VARIEGATED.—Entered for Cup.—Prize, W. Phillips.

RABBITS.

LONG EARS.—First, J. Taylor (length 21¼ inches). Second, C. R. Titterton (length 21⅛ inches). Third, J. Bacon (length 21 inches). Fourth, T. Hughes (length 19½ inches). Highly Commended, P. Boulton.

FOR WEIGHT.—First, W. H. Bonser (weight 14 lbs. 7½ ounces). Second, E. Vaugler (weight 14 lbs. 5 ounces). Third, G. Smallwood (weight 13 lbs. ¼ ounce). Fourth, J. Taylor (weight 13 lbs.)

BEST BUCK.—First, P. Boulton (best Buck of all properties). Highly Commended, J. Lawrence, J. H. Craigie.

ANY OTHER BREED.—First, W. H. Malpas (Chinese). Second, T. Gilbert (Prussian.)

BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY'S SHOW.—JUNE 1858.

THE Bath and West of England Agricultural Society have always been distinguished by the liberality of their poultry prizes; and, consequently, for the excellence of their Shows. The anniversary of the day when Mr. Gray paid £1000 to the Patriotic Fund, out of the profits of the Show, should be a red-letter day in every poultry calender. Mr. Pitman, the present steward, appears no less energetic than his predecessor; the schedule he has just issued for June, 1858, offers twenty-eight silver cups, and numerous money prizes, to the exhibitors.

The Cups are allotted as follows:—One to Spanish, two to Dorkings, three to Cochins, one to Brahmas, four to Game, one to Malay, four to Hamburghs, three to Polish, and one to any other variety—all to old birds. Three Silver Cups and Medals to the best pens of Chickens of any breed; and, in addition, a prize which we have much pleasure in seeing in connection with an Agricultural Society, namely, to the best pen of Chickens, considered entirely with reference to table purposes: absence of offal, whiteness of skin, early maturity, and size, being the points to be aimed at. Cross-bred birds are eligible; but their origin must be stated. There are also Cups offered for Single Spanish, Dorking, and Game Cocks. Five classes of Bantams have money prizes; and a Silver Cup to the best pen. And the three classes of Ducks, with Geese, Turkeys, and Pea-fowl, finish the poultry list. The Pigeons have fifteen prizes, and a Silver Cup and Medal to compete for.

The Secretary is Mr. John Kingsbury, Hammet Street, Taunton.

THE NEGLECTED ONES.

GAME Bantams are a neglected, yet a most interesting, class of fowl; and, ere long, will fight their way through the prejudice and the ignorance with which they have had to contend, and take that position amongst their feathered mates which they so worthily merit.

In the Bantam class, the Game is the most courageous, beautiful, and hardy bird; and the hens are the best mothers. When good, they command as high prices as any other variety, are as profitable, and ought to take the lead in the prize lists, instead of coming under the almost despicable class of "any other variety."

Why, then, is this class so neglected? It is not that they lack merit; but simply because the Committees of Poultry Shows, either through ignorance or prejudice, refuse them fair play. I trust that the lovers of this variety will not place them in competition on unequal terms. Grant the Game Bantam fair field, award the Varieties equal prizes with other Bantams, and they will soon become one of the most numerous, profitable, and interesting of the Bantam classes in a Poultry Exhibition.

The opponents of Bantams, when speaking derogatorily of them, and comparing them with their larger pets, talk about "weight of eggs"—"increasing the food of the nation"—"their profitableness," &c. Now, to talk to a fancier about increasing the food of the nation, by keeping and breeding each variety from the purest strains, is a pure fudge. If that were the object, I would refer them to the common Barndoor fowl at once.

Poultry, bred and kept for Exhibition, is a fancy; and the fancier of the Game Bantam, when his birds are good, can command as high prices for them as the larger fowls; and we may justly infer—"to say nothing of beauty which is in the eye of the beholder"—they are as profitable to breed as "any other variety." I shall be glad to see the lovers of these interesting and plucky little birds come forward and demand for them that place they so richly deserve.—MERRYLEGS.

P.S. Will some fancier of Game fowls inform me whether yellow or willow legs are preferable in the Duckwing?

BENEFITS OF POULTRY SHOWS—EGG REGISTER.

With your pleasant remarks on the past year's doings I concur; and I think there is not any one, who feels an interest in poultry for its own sake, can dissent here in Scotland. I may safely say that the interest manifested in poultry, and in poultry exhibitions, during the last year, has increased twofold; and in all likelihood, at least for some time, will continue to do so. That the poultry movement has been productive of good I am well aware; and that in a very marked way to the class to which I belong, namely, the working class. Being a pleasant pastime, and, at the same time, one that will give a return in a pecuniary point of view, I feel very desirous to propagate it amongst my own order. That the columns of The Cottage Gardener have been of great service to the poultry movement is beyond a doubt. Through them the ignorant have been enlightened: and a system of dishonest and designing men has been exposed; and those who might have been their dupes saved from repining at the loss of their birds.

Your promise to endeavour to extend your usefulness gives me encouragement to suggest a plan, which, I think, would be of some advantage to this movement: this is in regard to the sale of eggs. As the season for hatching is at hand, my plan is to have a place in your paper, such as your "Letter Box," wherein to enter the produce of eggs purchased from advertisers, stating from whom; and after the birds had come of age, if good or bad specimens of the class to which they belong. My reason for suggesting this is, that I know of some who were disappointed last season in not getting chicks from eggs that were bought from advertisers, and at a price that should have guaranteed them good. Now, if this plan were adopted, my opinion is, that it would not only be of advantage to the poultry movement, but to the honest individuals who sell eggs from the birds they advertise. On the other hand, it would, to some extent, expose those who are merely making a money speculation of it; and who can send out eggs from other birds, and eggs that never could produce chicks. I know that it is proposed, in order to obviate this, to buy birds of those who have plenty of money. I agree: but it must be remembered that there are plenty of working men who could buy a sitting of eggs, that, if they had to purchase birds, would be excluded from the pleasure to be derived from keeping poultry. It is on their behalf I suggest this plan. I can assure you that it is very hard for a poor man to pay for a sitting of eggs, besides packing and carriage, and after all to find that the packing-box is all he has for his money. Concerning those to whom I have already referred as being disappointed: last season, one of them wrote to inform the seller of the unfruitfulness of the eggs he sent; when he, like a gentleman, promised to replace them; but, unlike a gentleman, he sold off his stock, and refused to do as he had promised.—Equity.

[Eggs sent to a distance must be liable to injury by the shaking and rough usage to which they are liable. Mr. Punchard published a list of the results of sending his Cochin China eggs, and more than half proved fertile. We sent eleven eggs more than one hundred miles, packed in oats in a strong box; and nine of the eggs produced chickens.—Ed.]

NATIONAL COLUMBARIAN CLUB.

The first annual Show of this Society took place on Tuesday at Anderton's Hotel, Fleet Street; and was exceedingly well attended by the friends of the members. Mr. Adkins, of Birmingham, sent up a very large and superior collection, consisting of nearly twenty varieties. A considerable proportion of the birds composing it have so often figured before the public as recipients of prizes as to need no detailed description.

Mr. Jones Percival's pen contained a very superior pair of Red Barbs, some good Magpies, and blue Fantails, &c. The Hon. W. Vernon sent, with other birds, a pair of excellent Red Priests; and several German varieties were also shown by Messrs. Towse and Griffiths. A good pair of Scanderons, and several Runts, were exhibited by Mr. Tegetmeier. Mr. Esquilant showed Almond Tumblers; and some good Carriers were forwarded by other members. Altogether, the Show may be regarded as exceedingly creditable as the first Show of a young Society: and all parties felt their thanks were due to Mr. Adkins for the trouble and the expense he had incurred in forwarding his large and valuable collection from Birmingham.

AWARDS AT THE CRYSTAL PALACE POULTRY SHOW.

I was surprised at reading a letter in last week's number, signed "H. B.," finding fault with the judgment on Duckwing Game fowls. "H. B." finds fault with the second prize pen; and goes on to state that the third prize pen is even worse than the second. Now, as I have the third prize hens before me, I can truly state that a better pair of Duckwing hens were never exhibited. They were, by twenty or thirty Game fanciers, thought to be superior to the hens in the first prize pen. "H. B." should wear glasses before he criticises the decision of the Judges; for the third prize cock bird had two good eyes when he reached home."—A Working Man.

WINTER LAYERS.

Having kept the Blue Andalusian fowls several years, I can recommend them as the best variety to be kept in small confined situations; they are hardy and less subject to disease than any other kind, and have continued laying through the severest winters, after Cochins, Brahmas, Spanish, and other kinds had given over; although with same treatment, and food. I have had pullets commenced laying at five months old, and averaged over 200 eggs each within twelve months.—C. Coles.

OUR LETTER BOX.

Water Fowl (*Southern Cross*).—For your "small piece of water," in addition to your Teal and Widgeon, you may have the White Call Duck, and the small species of Gull. Have them all pinioned. Why not let them ramble over your garden? They will destroy the slugs.

Rabbits (*C. Cotton*).—The markings are not uncommon.

Spanish Fowls (*Y. Z.*).—The wrinkling of the cock's white face is a beauty, not a defect. The "Poultry Book for the Many" is price sixpence, and will be sent to you direct from the office, if you send postage stamps for the amount. The weight of the cockerel is good. Prices vary for Spanish pullets. Write to any prizetaker in that class.

Twisted Breast Bones (*W. G. H.*).—We believe, like spinal curvature in the human frame, it arises from constitutional weakness, and is hereditary. A good range, little but nourishing food, good water, cleanliness, and plenty of green food, are the best preventives. "Clear" and "black" are not incompatible terms.

LONDON MARKETS.—February 1st.

POULTRY.

Although good Poultry is, as usual, becoming scarce, yet there are large quantities of an inferior quality. The glut of Pheasants continues, and they are very difficult of sale at low prices.

	Each.		Each.	
Large Fowls ...	5s. 0d. to 5s. 6d.		Hares	2s. 6d. to 3s. 0d.
Small ditto.....	3 6 ,, 4 0		Wild Ducks ...	2 0 ,, 2 6
Chickens.....	2 0 ,, 2 9		Teal	0 0 ,, 0 0
Goslings	7 0 ,, 7 6		Rabbits	1 4 ,, 1 5
Ducklings	2 6 ,, 3 0		Wild ditto	0 9 ,, 0 10
Pheasants	1 9 ,, 2 6		Pigeons	0 10 ,, 1 0
Partridges	1 4 ,, 1 6		Larks 1s. 0d. to 1s. 6d. per doz.	

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WEEKLY CALENDAR.

D M	D W	FEBRUARY 9—15, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
9	Tu	Brachysema latifolium.	29.591—29.475	46—35	S.	.06	28 a. 7	1 a. 5	5 a. 26	25	14 30	40
10	W	Queen Victoria Married, 1840	29.753—29.642	51—33	S.W.	.01	26	3	6 12	26	14 31	41
11	Th	Brachysema undulatum.	30.009—30.821	52—27	S.W.	.03	24	5	6 46	27	14 31	42
12	F	Brachysema villosum.	30.348—30.262	50—23	W.	.00	22	7	7 12	28	14 31	43
13	S	Baronia primata.	30.291—30.262	46—25	W.	—	21	9	sets		14 29	44
14	Sun	Shrove Sunday. Valentine.	30.249—30.187	47—22	W.	.01	19	10	5 58	1	14 27	45
15	M	Cytisus filipes.	30.112—30.066	48—26	E.	—	17	12	7 18	2	14 25	46

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 45.0° and 30.7°, respectively. The greatest heat, 65°, occurred on the 10th, in 1831; and the lowest cold, 3°, on the 11th, in 1845. During the period 135 days were fine, and on 82 rain fell.

MEETING OF THE LONDON HORTICULTURAL SOCIETY.

February 2.

This might be said to be the first day of real wintery weather round London. The "glass" fell from 10° to 12° below the freezing point on the previous night; the wind was north-easterly in the morning; and it began to snow before noon, and continued till night. On reaching the bottom of Regent Street, I was inoculated with the spirit of the times, and could no more turn up to the rooms of the Society than I could fly—I must see the Princess William of Prussia, and bless her, like the rest of them, ere I could settle down to think of other flowers: so along St. James's Park I went to meet the procession. The entrance into London by this route is more mean and more shabby than any entrance I know of to a town or country village in England—two sharp turnings round two corners, a narrow carriage-way through a paltry gate, and a run through the "back yard" of the Duchess of Sutherland's, lead from the open Park, in front of Buckingham Palace, to St. James's; and must have given the meanest idea of London to those foreigners who crowded that way for the first time on the late occasion. Close to that narrow gate stood the Duchess of Sutherland with her ladies in waiting; and a thin tall gentleman, perhaps his Grace, under an open canopy in the south-east corner of the garden of Stafford House, just overlooking the gate, by which one carriage only can go into, or go out of London, at one time. The procession soon passed through the gate. The Princess was most deeply affected; but a thick dark veil hid her emotions considerably from the crowd. The Prince William of Prussia by her side, and Prince Albert and the Prince of Wales, with their backs to the horses, all looked very grave, and very thinly clad in dark grey travelling-wrappers, the carriage wide open, and the snow just beginning to spin slowly in broad thin flakes.

I could not hear of Mr. Stevens, at his sale-rooms, for the awful noise of the poultry, which they were then sorting; and I could not wait to see the sale on account of the Horticultural Meeting; but I ran through Covent Garden Market, that I might be able to compare the show of cut flowers with our competition of flowering plants. The market was very well supplied with flowers; but the Camellias, which were the most numerous, were not even second-rate in size. Azaleas were as good as we see them in May; the double early Tulips were first-rate; Narcissus very badly forced indeed; Hyacinths capitally done; Tree Pœonies most capitally forced; Mignonette not amiss. There were three kinds of Tropæolum, of the *Lobbii* section, very rich indeed; a few *Alba multiflora*, and *Gauntlet*, and common scarlet Geraniums, Cyclamens, common border Anemones, Snowdrops, *Acacia affinis*, *Bignonia venusta*, *Dendrobium nobile* or *moniliforme*, *Richardia* or Arum Plant, immense quantities of the China Primrose, principally double white, and hosts of Violets; but nothing particularly new in nosegays. They *make* the nosegays exceedingly well in Covent Garden; but they are all of one stamp—jolly good nosegays for dairymaids' weddings; and what could a duchess want better? Or if she did, she could not be better supplied if she lived within fifty miles of London.

The best nosegay in the market that day was made thus:—A fine large white Camellia for the centre; then two *bunches* of the *Gauntlet* Geranium opposite each other, and two other bunches of Tropæolum, *Triomphe de Gand*, the same giving, as it were, a crimson-shaded ring round a white; and the third ring was of bunches of double-white Chinese Primrose, *set in between* the common ones, *so as not to appear like a band*, all round; then a border of sweet-scented Geranium leaves, and the lace-like paper envelope.

There was not a single Rose-bloom to be seen in all the market that day; but forty or fifty years ago people used to have *Cabbage* and *Moss* Roses to sweeten the Christmas Holly, according to one of our best authorities on such things (my late employer, Sir W. Middleton). I made a diligent inquiry among the best practicals at the Horticultural Society respecting the poverty of the London flowers in winter, as compared with our country "establishments," and the answers were quite satisfactory. They amounted to this—that to grow them would not pay; that the "establishments" were not in town at that season; and that all that was "doing" in Covent Garden in winter flowers was principally for theatre-going people, and for young swans or cygnets of the city. Therefore, said I, we must not be so hard on the Horticultural Society for not endeavouring to promote winter-flower forcing; although it seems hard to be compelled to use artificial flowers, and to recur to our old notions of fine-leaved plants at a royal wedding, if it happens to "come off" when the "establishments" are not in "town." And with this softened view of the subject, let us approach the February meeting in Regent Street.

There were handsome prizes offered, this time, for certain plants in bloom; but "they would not pay," and we had them not; and so we had more money to spend on very deserving effects, in other things. The best new plant was a charming one, from the Wellington Road Nursery—a grand emporium for novelties, for arrangements of business details, and for the one-boiler system of heating by Mr. John Weeks, which I must go and see with my own eyes. Another nurseryman, the head of the Pine Apple Nursery firm, told me in the meeting-room, that the one-boiler system, which I should see in the Wellington Road Nursery, was the most effectual, and the most complete thing of the kind in the kingdom. It is worth recording this, as it is not often we meet with one tradesman who speaks well of a rival, and of a third party in the same line. I, myself, have been called

over the coals, for merely saying of two nurserymen, that both of them came into this world with silver spoons in their mouths, because one of the spoons was *deeper* than the other spoon, and could take up more of the porridge.

But about the newest plant. It is one of Linden's new imports from the highlands of Colombia, and, therefore, a warm greenhouse plant, according to the lecturer; but 50° of heat are about the right temperature in winter. The name is *Monochætum ensiferum*, by De Candolle; and *Arthrostemma*, of Pavon. A Melastomad, belonging to the Osbeckia section of the Order. It is a small-leaved bush, with soft-wooded branches, and blooms very freely. The flowers are middle-sized, for that section, and of a most beautifully bright deep rosy colour, with sword-shaped, crimson-coloured processes on the stamens, which deepen the shade of the flowers, and render them very brilliant. The name *ensiferum* is derived from these appendages on the stamens.

From the same firm came a large pot-plant of *Cyclamen Atkinsii*, a cross intermediate between the hardy *Cyclamen coum*, and the tender *Persicum*. The leaves and habit after *coum;* and the colour more after *Persicum*, but with the hardy constitution of *coum*. Also, two plants of fine Carnation-striped Camellias, called *Targioni*.

Mr. Cutbush, of Highgate, sent a dozen of his best, forced Hyacinths, single and double—*Prince Albert*, the darkest, and *William the First*, a bluish dark purple single flower, which I have not seen before; *Baun Van Tuyll*, fine, deep, single blue; *Grand Vidette*, a very large and strong pale blue, single; *Orondates*, a shade of deeper blue than the last; *Tour d'Auvergne*, the best double white; *Norma*, a single peach blush; and *Mrs. Beecher Stowe*, the finest scarlet, with lighter shades. The value of such collections was represented, in the lecture, to be, that those who saw them, or heard the names, could safely trust to them as the best kinds, for them, to force another year.

Mr. Glendenning, of the Chiswick Nursery, sent two kinds of Camellias, which Mr. Fortune brought home from China. These, I believe, are the imported plants, which tell that the Chinese work their Camellias just like the French and Germans, and as we have done for the last twenty or twenty-five years—that is, graft single buds with a slice of the wood. One of them is very much like *Albertus*, in the flower, and is named *Princess William of Prussia*. The other is a large cupped white flower, with a tinge of blush, "which has a tendency to come in crimson stripes." This is named *Cup of Beauty*.

The Messrs. Jackson and Son, of Kingston, sent a collection of fine plants in bloom. A ground Orchid, from India, with the rarest colour of the race, between cream and orange, and called *Calanthe curculigoides;* also, *Dendrobium monoliforme*, from Java, or Japan, but why it was called *moniliforme* (neckless-shape), I never heard till then. When the plant was introduced, the joints of the stems were so reduced at each end, by drying on the passage, as to look like oblong beads, narrowing at each end: hence the fanciful name. In cultivation, however, the name is inapplicable; the shoots are always full and fresh-like, and the whole plant looks much like *Dendrobium nobile*. They showed, also, two large double Chinese Primroses, the double white, and double pink, each from twenty inches to two feet across; and two kinds of Epacris, *Atleeana*, and *Impressa alba*.

Mr. Chandler, of the Vauxhall Nursery, sent three kinds of excellent Camellias. *Saccooi Nova*, an Italian seedling, is the best of them ever raised beyond the Alps. We heard of it first from Germany, in 1836 or 1837; and between that and 1840, it was the lion of their novelties in London. It is of a rosy colour, and is as closely imbricated as if it were made in a mould. Messrs. Chandler's next Camellia was an immense large dark crimson flower, called *Mathoteana*, named after M. Mathote, a continental amateur of the family. This a noble Camellia, when well done; its only fault is, that it is a rambling grower, and, therefore, better for training against a back wall, than as a bush or standard, in the bed of a Camellia house. Messrs. Chandler's third Camellia was *Jubilee*, a small, white, and Carnation-striped kind, which is one of the best pot plants among them.

There was a collection of Camellias from E. A. Brand, Esq., Turnham Green. A tall standard red of the *Waratah* breed; a *Lady Hume's Blush*, with most of the flowers hexangular. One of them in the Experimental Garden has every other flower in this angular condition. *Imbricata*, with the first flowers regularly variegated; *Woodsii*, a most difficult kind to open well; another *Mathoteana*, and a *Marchioness of Exeter*, a noble rosy bloom, and a most excellently-habited plant.

There was a considerable collection from the garden of the Society. Fine *Deutzia gracilis; Eranthemum pulchellum; Acacia lophantha;* a half-shrubby Gesnera-looking plant called *Sciodocalyx Warscewiczii;* the large kind of Mignonette, much the best for winter; several Epacrises; many small pot plants of Chinese Primroses; a fine dwarf plant of *Berberis Nepaulensis*, coming into bloom, with flowers like deep orange tassels; and we were told that the kindred Berberis, from Japan and China, had much paler flowers; also, that all this breed of the family require shaded situations from the sun—such as one would choose to bring out the beauties of the old *Aucuba Japonica*. Therefore, make a special memorandum of this; and when you buy *Berberis Japonica*, *Nepaulensis*, *trifurca*, *Bealiana*, and *intermedia*, or any other large-leaved Berberis from the East, recollect and plant them out in the deepest recesses of the wilderness, or under huge trees, whose shade and shelter will alike save them from the sun by day, and the frost by night. Let neither the sun, nor the moon, nor any of the stars, blink upon your eastern evergreen Berberis; and let all your Aucubas be banished from the light, or from much of it; and all these plants will shine and glitter, grow, bloom, and ripen seed, as none of their family has ever done before in these islands.

Fruit.—Best-keeping Pears by the score or dozen. Which is the best February Pear after all? Is there a better than the *Ne Plus Meuris* (Ne Plu Muri)? Perhaps not: but is there a more ugly-looking one amongst all the fruit? No, certainly not. Well, we had full two dozen of it from one grower, Mr. Tillyard, gardener to the late Speaker, now Lord Eversley. Also, as many *Beurré Rance*, of the finest sample; also, *Black Hamburgh Grapes*, not well coloured, and a fine dish of *White Walnut-leaved Potatoes*, and a similar dish of the *Purple* variety of the same.

Mr. Hill, from Keele Hall, Staffordshire, the residence of R. Sneyd, Esq., sent the finest preserved *Muscats of Alexandria* we had ever seen—a large basket of them; also, *Black Hamburghs* equally good; and the true *Tokay*, looking far more fresh and plump than the others. But the *Barbarossa*, medium-sized bunches, were as fresh-looking, and as full of bloom as if they were new Grapes. They were sent from Escrick Hall, Yorkshire, by Mr. Mitchel, gardener to Lord Wenlock. Mr. Tillyard sent also two match fruit of the *Antigua Queen Pine*, without giving the weight; also, a dish of *American Cranberries;* and there were a brace of *Cucumbers*, from the Society, a useful-looking winter kind, called *Lady Antrobus*, and

appearing like the blood or sap of *Kenyon's Free Bearing*, of thirty years back, which free-bearing kind was then the favourite on both sides of the Mersey, and which Mr. Forest brought up from Eaton Hall to Sion house, about 1826, 1827, or 1828; and the said Mr. Forest, then and there changed the name of Lord Kenyon's Cucumber, to that of *Sion House*, or Sion Free-bearing, which was an unfair thing to the Chester and Liverpool Gardeners, and a good opportunity for such as did rejoice to sell seeds of one good kind of Cucumber under two substantial names.

But the best of all I have to report, is, that we elected nineteen new Fellows, in the midst of the snow storm.

Mr. Thomson's new gas and hot water stove for heating small greenhouses was there on exhibition. It is altogether different from all the engravings I had seen of it. It is a common gas stove in appearance; with a square tank for water fixed to the top. The tank is from three to four feet long, and about twenty or twenty-four inches wide, and two or three inches deep. The stove and tank are filled with water from a small hole on the top of the tank at one corner; and spiral tubes, with funnel heads below, over the gas jets, carry the heat up through the stove, and across the tank, to a pipe-chimney at the back of the tank. Now, take away the gas and stove, and place the tank inside a Cucumber bed, and put a lamp under it, and you have the Waltonian case in operation.

Every stove in London heated by gas, this one of Mr. Thomson's, and all that I have seen for heating plant structures, are essentially and entirely on a wrong principle. I would not use one of them for my seedlings upon any consideration whatever; and yet I could alter them all so as to suit the most delicate plants we have. I would merely fix the bottom of a gas stove, so that no air from the house or room to be heated should get into it; and the air to sustain combustion I would borrow from another source—a cellar, an adjoining room, or from the open air, through an underground drain or pipe. Common lighting gas is the most searching of all the deadly poisons to plants, and should never be risked to contaminate the air which plants must breathe: and they all do breathe as assuredly as we do, and are much more easily killed by breathing "foul air" than we are. One may heat plants with gas for a dozen years, and have no accident that way: but the knowledge that one's plants are liable, at any moment, to be killed through the smallest or least-looked-for accident, is enough to make one dream of thunder and lightning the moment you get to bed. But make sure of the gas fumes passing into the outside air, and it is as good as any other mode of heating, as far as its strength goes.

The next subject was also very ingenious—a tell-tale flower-pot—a pot which *will tell* when a plant in it wants water. No more "answers to correspondents" about how often or how much water to give to a plant. All correspondents of that kind should buy the new pots, and save the postage. They are sold by Mr. Smith, 3, Queen's Road, East, Chelsea, S.W., who says, "A very important advantage in these pots is, that on account of their becoming a deeper colour in proportion to their dampness, they give a clear indication of the state of the roots, which enables the attendant to regulate the watering with the greatest nicety." This "clear indication" was shown to us by one of the pots half full of water, and another empty: the dry one is of a light stone colour; but the moment the water runs into its porous sides, it becomes a dark shaded colour. They are certainly handsome and well-made; but for anything more about them, refer to Mr. Smith himself.

The third contrivance is of still more general use. A regular clean sweep out of all the grass lawns in the kingdom by a set of patent brooms of all sorts, all forms, and all sizes. Mr. Fish saw these brooms in use at Dunkeld, under the inventor, Mr. Henderson, gardener to the Duke of Atholl, and he highly approved of them, and told us the whole story, in his Scottish tour, the year before last. The patent is for the socket and head to set the broom-handle and the besom, or birch twigs in. This can be done to form a round broom, like the common old shape, or a swallow-tail-like broom, to sweep after the mowing; which swallow-tail broom is, or has been, in use in Suffolk, and across to Lincolnshire, time out of mind. I saw them twenty years ago with Mr. Mathias, the gardener at Glerering, near Woodbridge; and the men liked them far better than the round, old-fashioned brooms, and they could do twice as much work with them in a day: but they were closely put together with laths and nails, which were constantly getting out of order. But now Mr. Henderson's patent gets over all these drawbacks. The only thing I heard against them was lest they should be considered too costly: that is as nothing, however, against a sound principle of universal application.

Mr. Turner, of Slough, sent six specimens of a purple sprouting Kale, called *Cottager's Kale*, which appears to be a very profitable vegetable; with long stalks covered up from the bottom, with a profusion of "curled sprouts" as closely as the best kind of Brussels Sprouts; and the lecturer justly observed, that if this "tendency" were carefully developed, we might expect it to result in another form of Brussels Sprouts. But as it is, there is no doubt about it as a valuable contribution to our "greens."

D. Beaton.

EARLY BULB FORCING.

It is almost superfluous to discuss the merits of early bulbs, they are so generally esteemed. Nevertheless, I cannot but point to a few features connected with them, which deserve particular notice. In them, we have such gaiety of colour, such delightful scents, and such a dressy appearance altogether, as no other indoor tribe can combine in an equal degree. Whether in the plant house, or the drawing-room, they are equally acceptable; and many thousands find their way into dwellings of no marvellous pretensions, where they may be seen, ornaments of a mantel-piece, and regular pets in the eyes of the possessor when successfully cultivated. But, there is yet another particular feature of much importance, to which I would advert—and that is, their durability in blossom, under proper circumstances, and the ease with which they may be retarded when requisite. I have had bulbs in perfect blossom for nearly a month—possibly more. But they must not be coddled in a hot room, to retard them.

I may here point to the eligibility they possess for culture in glasses. This is a great accommodation; for we have scarcely any other tribe, but the Hyacinth, that will give equal satisfaction.

I shall not now say much about forcing in glasses, as few observations will suffice for that; but rather direct attention in the main to their culture in pots, which more concerns the majority of cultivators. But I may, before I proceed thus, endeavour to show, that there are a few points common to both. They are such as the following; and I will direct them principally to the Hyacinth, for the rules applicable to them more or less concern all the rest of what are commonly termed "Dutch Bulbs;" but, I fear that many so called, have been grown at Battersea, or some such place.

1st. Those bulbs, of necessity, require a given time,

and certain conditions, before they can be successfully forced.

2nd. The pots, or glasses must be well filled with roots, before they will bear much excitement by heat.

These points will bear a little further explanation. It does seem strange, even to a practical person, that a bulb in a pot, shall be for at least two months rooting with the utmost luxuriance, and yet not making the least effort at movement in the bud. But, such is the case: and it plainly shows that in the course of its ripening in the preceding summer, what an emptying of the watery fluids there must have been. That these new, white, and succulent fibres are rapidly absorbing from the soil there can be no doubt. But it happens just so with deciduous and other shrubs or trees, albeit in different degrees. Let anyone at this period, or indeed any time from November to January, examine the soil for three inches in depth over the roots of a Black Currant bush, in healthy condition, and not dug over, and he will find multitudes of white fibres in full action, as fresh and as young as those of the bulbs. In taking up Asparagus to force a month since, we found thousands of young rootlets, or side fibres in full action. There can be little doubt, therefore, but the emptied cells in the interior of the bulb, must be replenished to a given point, before any proper advance can be made by the bud of the bulb. This process requires, as far as my experience goes, about nine weeks; but, if it be prolonged to twelve or more, so much the better for the blossom as to strength. But they not only require time, but certain conditions also, as accompaniments. Bulbs coming naturally in the open soil in this country, are never thoroughly dry. The dryest period they undergo, is generally during the months of August and September. They are in constant darkness — bulb, fibre, and rising bud; the latter until nearly four inches in height: and when they emerge from the soil, and thenceforwards, their inurement to the light is so gradual, that they are prepared to meet every contingency. These conditions then, have to be approached as near as may be, both in glass and pot culture. Bulbs abhor a dry and hot air before they have abundance of roots; indeed, they never enjoy it under any circumstances. Those in pots, plunged overhead four inches in depth, in cinder ashes or old tan, or even clean sand, enjoy all the same conditions as those in the border: but what shall we say of glass or water culture? Here, the glasses are not unfrequently placed on a hot mantelpiece; and, it is strange to find them occasionally doing pretty well, in spite of such adverse conditions. But, be it remembered, it is only the earlier and easily-forced kinds, that the wary Hollanders recommend for glass culture; if they were to advise some of the double and late kinds, their trade as to glasses, would, before long, sensibly diminish.

We will now suppose that the pots have undergone a two-months' plunging, as before described; and that it is now the early part of November; and that it is desirable to have a batch in blossom for Christmas; which is about as early as I could ever obtain them, and few get them earlier—not one in a score so early without many failures.

I may here describe what I did with mine this season, and they have succeeded admirably, to be so very early; for I had some nice blooms of various colours by Christmas. I obtained my bulbs as early as they could be had in September, and potted them immediately. The soil was strong, indeed, somewhat adhesive, but mellowed loam half-dried in-doors. About one-half of this, and a quarter of old cowdung, and a quarter of sand, were the compost. I, however, generally add a little old, well-decayed leaf soil. The pots receive one or two good hollow crocks; and on this a little coarse horse droppings, which had dried for months in the bin. The soil was tolerably dry, and the pots were well shaken as the filling proceeded, in order to consolidate it. The bulb was placed in a hollow with a little clean sand beneath it; the pot was then filled up with soil, leaving about one-half the bulb above the rim. They were then placed on an elevated spot, and plunged six inches above the ground level; covered, also, four inches in depth, with ashes. They were immediately covered with boards, merely to throw off the rain, and they had no moisture by any other means from the potting time until after they were introduced to heat; that is, from the early part of September to the early part of November.

I will now for a moment revert to the conditions necessary on introducing them to bottom heat—so indispensable, I consider, to success in very early forcing. In the first place, they will not bear extremes. I consider that 75° are the maximum that may be permitted; anything between 65° and 75° is congenial.

After covering in the manner and for the time I have described, they come out nearly as moist as they entered; and they do not need water, with me, for, perhaps, a week or more afterwards. By plunging them in such a temperature, covering them again about three inches in depth, and warding off all sunshine, they come on splendidly. In my case they were in the front of a pit, made warm with leaves and dung mixed; they were placed on boards for fear of any chance of burning. Here, after remaining three or four weeks, their stout buds might be seen emerging above the plunging materials; and they were, in succession, removed to a plant house, which was kept rather warm, and placed under the stage in the shade for nearly a week; and from thence to the plant shelves, or drawing-room, as occasion required. If they are suddenly exposed to light, especially sunshine, the necessary consequence is, that the earliest-formed bulbs are prematurely developed: they have not taken the necessary time for their formation. I imagine that if we could witness what is going on in the interior of the Hyacinth bell all the time it is progressing to the earliest development of the first "bell," we should rather wonder, than otherwise, that they will submit to the liberties we take with them.

Here I must remark on the vast difference there is in the kinds of Hyacinths as to forcing purposes. Many of the very early kinds are forced with little difficulty; and amongst the later kinds there is a great difference in their way of rising through the soil under forcing conditions. Some show their blossom-shoots almost before a leaf appears; others will shoot forth leaves, four inches long, before the blossom-bud can be at all discovered. Now, this is not only a question of kinds, or of earliness or lateness alone: much must depend on the character and growth of the bulbs in the preceding summer. It must not be supposed, because a bulb looks large, and its skin well dressed, and made to shine, that all is right within: there may be something "rotten in the state" after all. I dare say, did we know at all times the precise history of the bulb, and some maltreatment it may have received within in regard to its previous growth, insects, or rest condition, that we should lose a portion of our confidence in forcing it.

I think it well to say here something about retarding them; for when ladies or gentlemen leave their homes for a week or two, it is a pity that Hyacinths in fine bloom should be hastened to decay, if any means can be adopted by which we can preserve them. All they require to preserve them as long as possible are a very low temperature, a dryish air, and a partial deprivation of light. From 35° to 40° is amply sufficient:

therefore, any cool room on the north side of a house, or building—one in which there is no fire—is an eligible situation for them; and they may be kept entirely away from the window for a week or so.

I have hitherto spoken of Hyacinths forced as early as possible for drawing-room, or plant-house purposes; but, in fairness, I may observe, that in endeavouring thus to get them so very early, some will become slightly drawn, and would not please an exhibition man. But who exhibits at Christmas? Nevertheless, these things ought to be named, in order that no disappointment ensue. Exhibition Hyacinths are seldom required before March; and, when such is the case, there is no occasion for so much hurry in the matter. It is requisite that, in the case of exhibition Hyacinths, the "bells" be not too far apart. I may here observe, that, to obtain such qualities, the pots should be placed very near the glass, or light; for light it is, and air together, with very moderate excitement by heat, which cause them to bloom in a compact, or an exhibition form. Where Hyacinths in pots are not wanted before the middle of February, they require little ceremony. The best plan is, under all circumstances, to obtain the roots the moment they are imported, and to pot them immediately. They may then be plunged out of doors, as before directed, and covered with quite six inches in depth of cinder ashes, for fear of frost. Here they may remain until past Christmas; when they may be transferred to any mild greenhouse, and a little three-inch pot, inverted, placed over them, to keep them from intense light. Hyacinths, as well as most other forced bulbs, delight in weak and clear liquid manure. I use weak guano water, at the rate of two ounces to a gallon.

Some caution is necessary as to the roots getting through the bottoms of the pots, and over the surface. This is to be avoided. Cinders, ashes, or indeed any other soil-like material, will induce this. Hence, one advantage in never plunging them. But the other course has its disadvantages likewise. They seldom, however, get much above the pots, until the chief fibres have descended to the bottom; and, perhaps it would be a good plan to place bits of broken slate, glass, or any other hard material on the surface of the pots before plunging; this would at once turn the fibres downward, where they would be of much service.

What has been said of the Hyacinth, will apply in degree to Narcissi, Tulips, Jonquils, &c., using such modifications occasionally, as the natural habits of the plant will justify. I have tried the effect of a good covering of green moss on the Hyacinths, in water glasses; and think that in excluding light, and warding off the dry heat of sitting rooms, it is highly to be recommended. R. Errington.

HEXTON HOUSE.

(*Continued from page* 277.)

In these days, gardeners will criticise and give their opinions pretty freely on most things; and, many have said to me, how beautiful a flower garden would look on the eastern front, with the lake as its southern boundary. Here, however, to meet the rule referred to, the north side, at least, would have to be planted out, so that the garden should not be seen before getting to that front of the house. A fence would almost be required with a gate; the fence going from the house along its northern boundary. This, to a certain extent, would do away with the liberty-hall-like appearance of that side of the house at present; and, if a flower garden and shrubbery to any extent were placed there, one fine feature would be next to lost—the looking upon the comforts, sports, and gambols, of the sheep and cattle, grazing in the rich meadow—the sitting and living rooms being chiefly on that side of the house. The width of gravel is, no doubt, designed to enable visitors to be set down at the east entrance, as well as at the north side; but, if that were to be entirely given up, by reducing the gravel from one-half to two-thirds; and, moving the iron fence of the meadow a few yards backward, there would be plenty of room for a neat parterre, so sunk in a panel as not to interfere with the landscape, nor the present view of live stock in the meadow, and yet the flowers and water would be seen distinctly from the windows.

As already stated, the south, or conservatory front, has also a large width of gravel before it, imparting no element there of fitness, except that there, too, a carriage might be taken. Unless for such purposes, great breadths of gravel close to private residences, are anything but elements of beauty; though extremely narrow walks convey an idea of want of comfort and ease. The conservatory being here, and a piece of kept lawn westwards and southwards, between the head of the lake and the approach from Pegsden, if a flower garden near the house were desirable, this would have been its best position; and the east front would remain as it is. As at present managed, however, there is not sufficient room. I recollect one gardener dotting the sloping bank to the lake with small raised beds; but, they had so much of the mole heap, contrasted with the green turf, that the lady, I presume, had them all removed. I have mentioned that the head of the lake here, is narrow, possessing nothing very attractive in itself, having no cascade or gurgling stream passing into it; and its proximity to the mansion, conveying the idea of damp soil and watery exhalations. The appearance of the house would have been more magnificent, if the water from the spring had been brought under an archway, beyond the east corner of the house, and near to where the handsome boat landing-place now is. The deep cutting for the narrow part of the lake might then have been level ground (may yet be ere long), and would have furnished a beautiful home-site for a flower garden, with a bank of evergreens for its southern boundary; the lake as its eastern limit, and the present lawn with its good specimens now shut up in a corner, as its western boundary. Even now, a pretty panelled parterre might be made, by shortening the width of the sloping part of the lawn, where it joins the lake, and greatly reducing the width of gravel. These suggestions are made, because many now prefer seeing flowers near at hand, instead of going a great distance to look at them.

There is nothing to prevent any such alteration of the bank, except a pretty young Tulip tree, a Thorn Acacia, and a neat specimen of the *Aaronia* Thorn. On the west lawn referred to, are fine specimens of Box—Box hedges and Box under-growth, growing everywhere with great vigour. Some fine *Arbor Vitæs*, some fifty feet high; Red Cedars nearly as large; some beautiful Weeping Ash; very elegant plants of Sweet Bays; a fine specimen of *Gymnocladus Canadensis*, some sixty feet in height; some fine healthy Cedars of Lebanon; and, perhaps the most striking of all, is a dense mass of *Arbor Vitæ*, sixty feet in diameter one way, and forty feet across the other diameter, produced by a tree that had been blown down many years ago; the main stem still remaining, but the mass consisting now of ever so many stems, rising from the old trunk, and most of them protruding roots for their own support.

The conservatory is a large elegant building, opening into one of the principal rooms. The west-end is glass, the lofty upright front is all glass, the roof is spanned glass, the back wall being opaque, and covered

with creepers. Such creepers dangling from the roof are one of its fine features. Rustic ornamental baskets suspended, are another. There is a pretty ornamental fountain at the west-end, in view of the doorway from the room. There are several narrow beds, with narrow stone paths between, edged with sweet-scented *Oak-leaved* Geraniums. The plants used for decoration, with the exception of a few standard residents, range from a foot to four feet or so in height, so as to be seen from the room doorway. Mr. Watson is extra successful among other things, with Primulas, Tree Carnations, *Salvia splendens*, and *Gesneræflora*.

The plants of the two latter, are managed much the same, as stated at page 186. Mr. Watson plants them out, waters carefully, trains and opens carefully, raises them about September, pots them, plunges in a bed of leaves in a house still retaining a little heat, syringes and shades until the plants are fully established; and such a combination of strong long flower stalks, abundance of them, and fine large healthy foliage down to the surface of the pot, I have never seen excelled.

The flower garden at the end of the lake is a pleasant retreat, and is graced with a romantic fountain in its centre. Round the verge of the basin, *Agapanthus umbellatus*, in large pots, and placed so that a part of the pot stands in water, bloomed profusely. Calla, and Mimulus, also thrive well under such treatment. The place, altogether, is rather shaded for flowers. The row of trees on the south side, had branches bending to and sweeping the ground, and yet permitting here and there, peeps into the paddock, at the cows grazing. The uniqueness of the place depended on its seclusion, and a background to the flowers from every position. A clever gardener cleared away, to the height of five or six feet or so, these lower depending branches of this row of trees; and taking me down to see the great improvement, I have no doubt set me down as a very Visigoth, because I did not join in notes of admiration. The meadow is opened up for the whole of that side of the garden; the seclusion and striking uniqueness are gone; and but little advantage is gained as respects freedom from shade. A few of the trees, shortened, or removed altogether, and the places filled up with something higher than the eye, permitting peeps into the paddock, and still continuing the background outline, would have admitted abundance of light, and still preserved the distinctive feature of the garden.

I have dwelt so much on these matters, that I must skip the kitchen garden by saying it is large, fertile, and fruitful. Stone fruit, as Plums, Apricots, and Peaches, against walls, generally produce abundantly; and notwithstanding its low sheltered position, or partly owing to that fact, often are loaded with fruit, when other places can boast of few. Most of the vineries want thorough renewing, the plants having been twisted and layered, and next thing to worn out. A Peach house, like the walls, produces abundantly; and Figs, both inside and outside, are cultivated with great success. A portion enclosed by walls, with a range of glass at the back, the centre being a greenhouse, is devoted to flowers; and here, the beds were full to overflowing. The worthy proprietor was very proud of some double Canterbury Bells, and other improvements on old fashioned plants. I never see a garden bounded by walls so devoted to flowers, without thinking how admirably Mr. Crockett has managed this at Raith, as detailed in a previous volume, by placing a background of Rhododendrons against the walls.

Outside the garden, and in the village contiguous, are large orchards, which in general bear abundantly, when trees on higher grounds for many miles round, are nearly barren, from frost and other causes. We have seen samples of the *Kerry Pippin, Orange Pippin, Blenheim Orange, Count of Wick, Russets, Margills,* and *Ribstones*, &c., which would be difficult to surpass. This season, on account of the extra heat, many of the *Ribstones*, were apt to crack, and to be bored by a small insect, and therefore did not keep so long. But, this has been a common complaint. A commencement has lately been made with French Pears; and I have no doubt they will answer equally well as to fertility and quality.

The orchard is bounded next the road by a wall, formed with a foundation, and a few courses above the ground, of brick, and finished with a wide coping of brick; but, the main bulk of the wall, formed of symmetrical blocks of chalk. Though it has stood a number of years, it is apt to throw off pieces, when a period of damp weather is followed by sharp frosts. The picturesque school premises are built with the same material; but, owing to the wide projecting eaves, in something of the Swiss cottage style, the walls have escaped uninjured. In addition to a garden for the school superintendent, and a playground, a good piece of ground has been divided into allotments for the children; so that, while their little heads are informed, and their hearts made better, their hands and feet may be early inured to industry. May the kind-hearted proprietor see many proofs, that her generosity in this direction has been suitably appreciated.

R. Fish.

MEETING OF THE BRITISH POMOLOGICAL SOCIETY.

A meeting of the British Pomological Society, was held on Thursday last, at the rooms in St. Martin's Hall, Long Acre. Robert Hogg, Esq., V.P., in the chair.

The following gentlemen were elected Honorary Members:

William Sanday, Esq., Holme Pierrepoint, near Nottingham.

John Burgess, Esq., Holme Pierrepoint, near Nottingham.

In addition to the premiums offered at last Meeting, it was announced, that Mr. Turner, of Slough, would give one of One Pound, for the best six specimens of *Salway Peach*; and Ten Shillings for the best ten specimens of *Cox's Orange Pippin*.

This was the day appointed for the award of Mr. Scrutton's prize of Two Pounds, for the best six dishes of Pears, and One Pound for the second-best; but, there was only one competitor. It was stated at the Meeting, that the want of competition on this occasion had arisen from a supposition on the part of growers, that dealers were not excluded from exhibiting, and that they declined sending their fruit on that account. The question then arose whether, there being no competition, the prize would be awarded; and it was decided, that the exhibitor having complied with the terms of the schedule, was entitled to the award, provided his fruit was considered worthy. The exhibitor was Mr. J. Allport, gardener to H. Akroyd, Esq., Doddington Park, Nantwich, Cheshire; and the kinds exhibited were, *Beurré de Rance, Glout Morceau, Easter Beurré, Passe Colmar, Ne Plus Meuris*, and one unknown. The members present having carefully examined all the varieties, it was unanimously resolved, that the collection was not worthy of the prize. *Easter Beurré* was quite passed; *Ne Plus Meuris* was decayed at the core; *Passe Colmar* was perfectly hard, and appeared as if it never would ripen; *Beurré de Rance* was also hard, coarse-fleshed, and insipid; and *Glout Morceau* was the only variety that possessed any degree of merit at all. It must, however, be stated, that they were all beautifully-grown specimens of the varieties; and had their qualities been equal to their appearance, nothing more could have been desired. This being the case, it was resolved that the prize be again offered; that the Meeting for competition be held on the 4th of March next; and that it be clearly understood that *growers only shall be allowed to compete.*

Mr. Rivers, of Sawbridgeworth, sent a collection of Pears, that had been well kept, but which were very inferior in quality, with the exception of *Knight's Monarch*. This was the finest Pear exhibited at the Meeting, and, indeed, was the

only one mantaining its true character. *Bergamot Esperen* usually so excellent, was quite void of flavour; as were also *Beurré Sterckmans; Beurré de Rance*, and *Alexandre Bivort. Easter Beurré* was not so far gone as Mr. Allport's, and rather better flavoured, but not so fine. *Fortunée* was pretty good flavoured, but astringent. He also sent two other varieties, *Beurré Bretonneau*, and *Léon le Clerc de Laval*, which sometimes ripen, or partially ripen, very late in the season; but which, under ordinary circumstances, may be considered stewing Pears.

Dr. Davies, of Pershore, sent specimens of *Ne Plus Meuris*, which were not so highly flavoured as they ought to be; and another variety erroneously named *Althorp Crasanne*, which had no resemblance to that sort, and was of very inferior quality.

It is a fact worthy of remark, that while all the varieties enumerated in the above collections are among the best varieties in cultivation, the past season seems to have had an influence on them of a most prejudicial kind; for it was remarked by all present that they never saw these late varieties of Pears exhibited so utterly out of character. The exception was *Knight's Monarch*, sent by Mr. Rivers, which was certainly in most excellent condition, and quite brought out the rich qualities of that variety. May we not therefore infer, that this variety is one less liable to be affected by extremes of seasons, and on that account all the more valuable? We never knew it suffer in reputation in whatever soil it was grown, whether on the warm sandy loams of Middlesex; the chalks of the southern counties; the cold clays of Cheshire, and Yorkshire; or the bleak exposures of the east coast. If added to this, it is equally unaffected by extremes of temperature, as it seems to be, we must consider *Knight's Monarch* the most valuable Pear we know. At the Meeting on the 5th of May, 1856, we remember it was exhibited by Mr. McEwen, then at Arundel Castle, in most excellent condition, possessing even at that late period of the season its rich flavour and aroma.

Dr. Davies, of Pershore, sent an interesting collection of Apples grown in that district; among which was a seedling from *Flander's Pippin*, having a near resemblance to its parent in form, colour, and quality. One, called Rhode Island, quite distinct from *Rhode Island Greening*, appeared to be a very excellent cooking Apple, from the delicacy and tenderness of its flesh, and its grateful acid. Its shape and colour resembled a large specimen of *Norfolk Beefing*, having the same livid red colour, but not so dark as in that variety. Scarlet Russet is of small size, and Pearmain shape, covered with pale brown russet, with a vermilion flame on the side next the sun. It is of excellent quality, sugary, and with a nice mild Fennel flavour. Comberton Pearmain is a nice-looking Pearmain-shaped Apple; but void of flavour. It was in fine sound condition, and appeared as if it would keep for a considerable time. Burdon's Reinette was found to be inferior in quality; but Dr. Davies said they were bad specimens. We would correct an error Dr. Davies seems to labour under in supposing that this is synonymous with *Isle of Wight Pippin;* we feel assured it is not, judging from the specimens sent. Queen's Delight has been before former Meetings; and though the specimens exhibited were said to be inferior, they nevertheless showed that this is a variety of some excellence as a dessert Apple. Ugly Buck was thought to be most appropriately named — scabbed, knobbed, distorted, and discoloured. Its looks did not favour it; but it is, nevertheless, an excellent dessert Apple, and appears to be identical with what is called *Knobbed Russet*, or *Old Maid's*. Sweet-water Russet was of good quality; but not remarkable for particular excellence—a remark that applies to two other varieties, called Goldfinder and White Pearmain. The best Apple of the whole collection was that marked No. 1, and which was not recognised as a known variety. It was of good size, and fine colour; the flesh firm, crisp, juicy, sweet, and remarkably well-flavoured. It is a variety well worthy of cultivation, and appears as if it would still keep for a long period. Good specimens of the true *Lemon Pippin* were also in the collection.

Mr. William Smith, of Peter Street, Hereford, sent to the Meeting, previous to this, an excellent collection of the Apples of the neighbourhood; all of which were correctly named, with the exception of *Court of Wick*, which was called Golden Reinette. Among the number were admirable specimens of *Golden Pippin*, from a very old tree, which Mr. Smith stated had, last season, made a strong and vigorous growth.

Mr. Cranstoun, of Hereford, also sent a very valuable collection, and most correctly named; not one instance of misnomer being found among them: among these were varieties of great merit.

I. C. Kent, Esq., of Upton-on-Severn, sent a dish of very beautiful *Golden Harvey* Apples, which he distinguished as *Chacely Harveys.*

Richard Varden, Esq., of Seaford Grange, near Pershore, sent good specimens of *Martin Nonpareil*—a small ovate-shaped Apple, with a yellow skin somewhat marked with russet; but it is not a variety of very high excellence.

Rev. G. Jenkins, of Church Hill, near Worcester, sent a variety, of respectable merit, called *Bagster's Favourite.* It is of small size, and somewhat oblate shape, with a large open eye in a wide, saucer-like basin. The colour is deep orange all over, with a darker and reddish orange next the sun; and the flesh has a yellow tinge.

Mr. Ward, of Headington Hill, near Oxford, sent specimens of a seedling Apple, raised in that neighbourhood, from seed taken from the cider press. Though a good-looking Apple, it was not considered to possess any merit beyond many others in cultivation.

Messrs. Youell & Co., of Great Yarmouth, sent six specimens of a fine-looking seedling, called *Webb's Kitchen Russet*, raised by I. C. Webb, Esq., of that place. In appearance it is like the *Kentish Codlin*, being perpendicular on the sides, and equally wide at both ends, with prominent angles on the sides. It is of a dark green colour, considerably covered with russet, and has all the appearance of being an excellent kitchen Apple. With the view of ascertaining its keeping qualities, it was ordered to be retained in the Society's fruit-cabinet till a subsequent Meeting.

From Mr. Thomas Patten, of Pattingham, near Wolverhampton, six specimens of a Seedling Apple were received, called *Patten's Pippin;* but the variety was not recommended as possessing any properties to entitle it to rank among desirable Apples.

From Mr. McFarlane, gardener to C. W. R. Ramsay, Esq., Barnton, near Edinburgh, an Apple which was found in a hedge in that neighbourhood. It is conical in shape, and ribbed at the eye; of a dark green colour, becoming yellow as it ripens. The flesh is very hard and firm, with a most intolerable acid.

Mr. Chapman, Market Gardener, of Isleworth, also sent a Seedling Apple, the consideration of which was ordered to stand over till next Meeting.

Messrs. Joseph May and Co., of Wellington Street, Strand, sent a Seedling Apple, named *General Havelock*, a fine large yellow Apple very much resembling the variety known as *Lord Suffield;* but, as no particulars were furnished with regard to its origin, the Meeting did not pronounce any opinion upon it. The same gentleman sent another Seedling from the *French Crab*, which, in the opinion of the Meeting, was either the *French Crab* itself, or so similar as not to be distinguishable from it. A specimen sent under the name of *Dutch Mignonne*, was incorrect.

In the report of last Meeting it was stated, by mistake, that the specimens of *Stamford Pippin* were sent by Mr. Laxton, of Stamford. We have received a communication from Mr. Ingram, of Huntingdon, stating that he has purchased the whole stock of that Apple, and that the specimens were sent by him.

The Meetings for the current year were arranged as follows:—March 4th; May 6th; June 24th; July 8th; July 22nd; August 5th (Annual); August 19th; September 9th, and 23rd; October 7th, and 28th; November 11th; and December 16th.

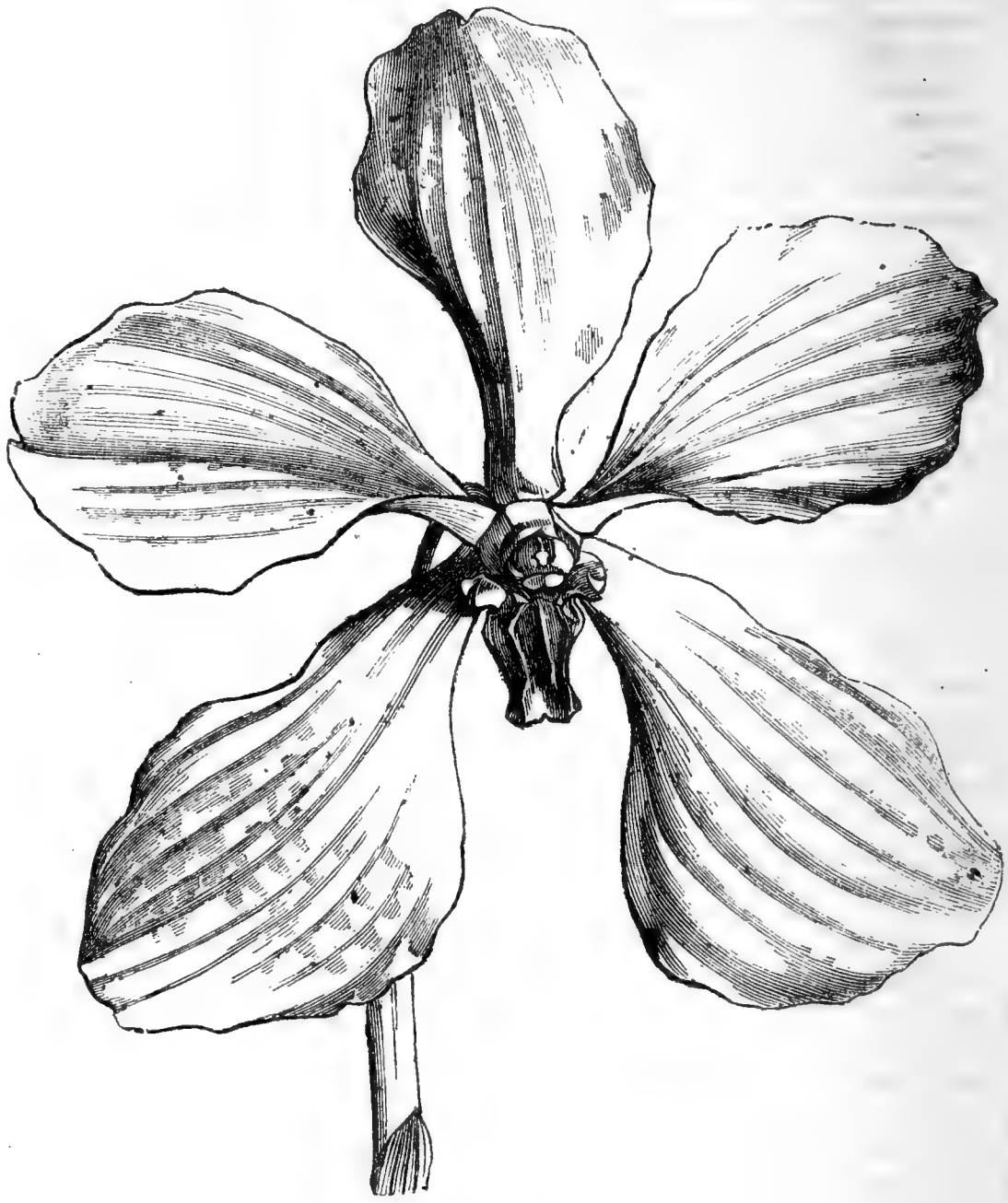
Australian Gardening.—At the Horticultural Society of Victoria's Show, in October, Mr. Rule exhibited a fine *Franciscea hydrangiformis*, a plant difficult to grow there; a *Begonia manicata*, which excited general attention; and a beautiful *Tropæolum tricolorum* which, we are informed, is a scarce plant in the colony. His *Phaius grandiflorus*, a terrestrial Orchid, was also conspicuous; and among the Ferns, the *Platycerium grande*, which is used as an article of food by the natives of Moreton Bay and New Zealand.

VANDA CŒRULEA.

Vanda cœrulea, an exceedingly handsome species, with pale lilac blossoms. The accompanying woodcut will give some idea of the size of the individual flowers, of which the spike on the plant exhibited bore thirteen. Fine, however, as this spike certainly was, it was remarked that it was small compared with some that had been received in a dried state from India.

"This glorious plant, perhaps the noblest of the Indian race, was called *Vanda cœrulea* by Mr. Griffith, who found it among the Khasya or Cossya Hills, and sent us dried specimens. Its flowers are as large as those of *Vanda teres*; and the foliage is as good as that of *Aërides odoratum*. It is to be regretted that we should have no more exact information as to where it may be found; but we can hardly suppose that it could be missed by any plant-collector who might be sent after it into Sylhet.

"The leaves of this wonderful plant are five inches long by nearly one inch wide; at their end they are two-lobed equally, and each lobe is sharp-pointed, so that the end looks as if a piece had been struck off by a circular punch. The flowers grow in upright spikes. A piece of a stem but four inches long bears four such spikes, which are from six to nine inches long, and carry from nine to twelve flowers. Each dried flower is between three and four inches in diameter; and if allowance be made for their having shrunk in drying, they may be estimated as at least a foot in circumference. The lip is, as is usual among Vandas, small; it is barely three-quarters of an inch long, narrow, with a short spur and a two-lobed point. Its surface is broken by three deep parallel perpendicular plates; and the lateral lobes of the base are triangular and acuminated."



Vanda cœrulea.

It was thus that one of us spoke of the present plant three years ago. The accompanying plate is witness of its arrival, and of the extraordinary beauty that belongs to it. The colour of the flowers is of a rich tender lilac; their texture is as delicate as that of Phalænopsis; and their dimensions are, at least, equal to what was stated in the above paragraph. In short, the species is a dangerous rival of Phalænopsis itself.

Its exact residence is not known. Mr. Griffith tells us that it occurs near the river Borpanee, on trees of Gordonia, in the Pine and Oak forests of that region. It is, however, not a little remarkable, that his journal contains no allusion to it; but we find that the district produces Bauhinias, Randia, *Phyllanthus emblica*, and Sugar-canes, all indications of a tropical region. The woods are described as delightful, reminding one of England. The elevation of the Borpanee above the sea is 2508 feet; the temperature 74°; the neighbouring vegetation Castanea (tropical species, of course), Kydia, *Camellia oleifera*, *Rhododendron punctatum* (whatever that may be), and Cuscuta.

The honour of having introduced this glorious plant belongs to Messrs. Veitch, who received it from their invaluable traveller, Mr. Thomas Lobb. The accompanying figure does scanty justice to it: for, although it represents faithfully the beautiful tender blue of the flowers, it by no means equals the magnitude of the wild plant. We have a dried specimen now before us with nine flowers open at the same time.—*Paxton's Flower Garden.*

CULTURE OF GLORIOSA SUPERBA.

We occasionally hear the expression of regret that many glorious forms of the vegetable kingdom, among which our present subject ranks, are not more accommodating in their habits, so as to be enjoyable by a greater number of admirers. In truth, this plant belongs to the aristocracy of plants, and requires subjecting to peculiar treatment to develope its magnificent inflorescence. Upon the culture of this species I now offer a few remarks, with the hope of lessening some of the difficulties which obstruct the progress of many cultivators in the attainment of their wishes.

This plant was introduced as far back as 1690, from the eastern hemisphere; but from the great difficulty experienced by cultivators in its management, it has almost been among the lost and forgotten till within the last few years, when success has attended the efforts of a few of our most skilful modern plant cultivators. It has long, irregular tuberous roots, from the eyes of which growth takes place generally about the end of February; but can be obtained when deemed most desirable. They should then be potted in an admixture of good turfy peat, loam, and well-decayed leaf mould, with good, sharp silver sand, in pots capacious enough to admit of a free ramification of roots. Good drainage is essential, upon which put a thin layer of moss, and small pieces of hard, dry cow-dung; filling the pots with the compost prepared, and planting the bulbs about two inches and a half deep. The pot should then be plunged in a bottom heat, having a temperature of 80° to 85°; and when the stem has risen a yard or more in length, the plant removed to a one-light frame raised on a good dungbed, secured by a lining of the same material, and the inside of the frame filled one-half in depth with the same fermenting matter, and paved over with slate. The plant being plunged at the back, the young growth should be kept trailed close to the slate, maintaining all the while the temperature above stated at the root; and a corresponding atmo-

spheric temperature around the plant; admitting air with great care, and on no account whatever shading; syringing the plant around the frame, inside, and over the slate, in the morning and afternoon; shutting up closely after; watering the plant at the root, when necessary, with rich, clear manure water, made from cow and sheep-dung. About three months from the start of the growth the temperature should be steadily increased, and water given sparingly, allowing the plant to become dry, but not so as to disfigure the foliage; and giving air on all opportunities more copiously. This will arrest the too-luxuriant growth, thereby causing every shoot-point to set with blossom; upon the first appearance of which the plant should be removed, and carefully trained in the desired shape. Then the temperature of a warm stove will expand the flowers; at which time the driest and coolest part of the house should be selected to prolong its time of flowering, which, with care, will last for weeks.

Immediately after flowering, the plant will assume a sickly hue. Water, then, should be gradually withheld; and wholly, when the shoots are sufficiently ripe to be cut away. The pot should then be stored in a dry, warm place, until the season for repotting and resumption of growth.—J. R. Tanton, *Gardener to H. O. Nethercote, Esq., Moulton Grange, Northamptonshire.*

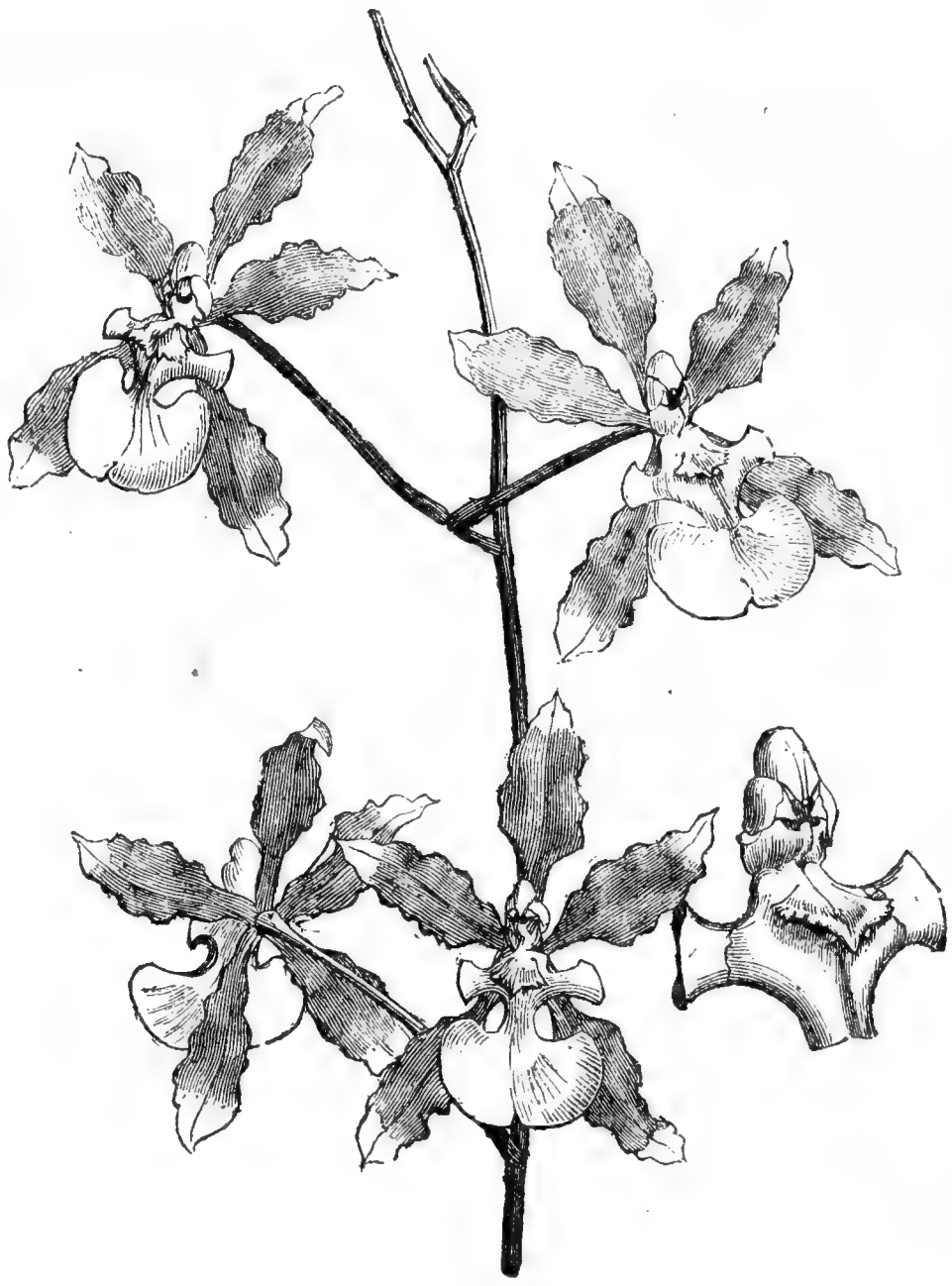
ONCIDIUM PLANILABRE.

Received from R. A. Grey, Esq., who obtained it from Brazil, and presented it to the Society through Thomas Edgar, Esq.

This plant has the foliage of *O. flexuosum*, and flowers much like those of *O. Suttoni*. The pseudo-bulbs are thin, sharp-edged, and ribbed at the side. The leaves are sword-shaped, lorate, recurved, and shorter than the raceme. The raceme is long and narrow like that of the Sutton Oncid (*O. Suttoni*), and the flowers are as nearly as possible of the same colour; that is to say, the sepals and petals are dull brown tipped with yellow, and the lip is clear yellow stained with cinnamon brown at the base. The sepals and petals are nearly of the same size and form, rhomboid-lanceolate, acuminate, wavy, very distinctly stalked. The lip is three-lobed, with the side lobes nearly as wide as that in the centre, which is slightly stalked, nearly hemispherical, emarginate, and perfectly flat. The crest consists of a broad lozenge-shaped rugged-edged cuspidate process, beneath which, near the point, on either side, are two, small, unequal tubercles; in addition to which there is a stout, blunt tooth, which rises in front of the column, forming part of it. The wings of the column are roundish, dwarf, and incurved.

There is no published Brazilian species with which this can be usefully compared. From the Sutton Oncid, and similar Mexican forms, it differs in the form of the crest, and especially in the strong tooth already mentioned as standing in front of the column.

It is rather a pretty species, of the third class in point of personal appearance.—(*Horticultural Society's Journal.*)



Oncidium planilabre.

THE CULTIVATION AND VALUE OF EUGENIA (MYRTUS) UGNI.

Amongst the many valuable introductions we have met with among new plants during the last few years, there is not one, perhaps, more deserving of general cultivation than the one bearing the name of *Eugenia Ugni*, or *Myrtus Ugni*; and, although it is a plant possessing such valuable qualities, yet it does not appear to be known or grown so much or so generally as it really deserves, or so much as it would be, were its beauty and qualities better known. The intention of the following notes is to point out what it is, and its cultivation.

The plant is an evergreen shrub, of a somewhat ornamental character; and hardy, it having withstood the frost with us (near London), during the three last winters in an exposed situation, not showing any perceivable objections to the severity of the weather. Although thus hardy, yet the situation I would recommend for its cultivation would be a cold house of any description, such as a winter garden conservatory, or cold pit, where it will be found to thrive admirably. Or, it may be grown and treated the same as the common Myrtle, respecting protection, watering, &c.; and will form a capital companion of that or other plant where a window is the only accommodation the plant can have; and would, I believe, flower and bear fruit to the satisfaction of any who may feel an inclination to have this comparatively new plant in their possession: and the price of the plant being so low, viz., from 2*s.* 6*d.* to 3*s.* for good fruiting plants, it will enable many to purchase now that could not when it was first introduced at 10*s.* 6*d.* for a small plant that would have to be grown two or three years before it flowered.

The best way, therefore, for any one who has not obtained it, but is desirous of doing so, is to send to the nurseryman for a plant at such a price. When you receive it at this season it will have made, of course, its wood for blooming in the spring approaching, but would be in a pot only of sufficient size to support its flowers. You would, therefore, let it flower and form the fruit, and then give it a shift into a pot a size larger, which will suffice for two seasons, this and next, without potting again; for it is a plant that (unless it is required to grow fast instead of fruiting), does not wish for an over-supply of pot-room; but, if size be the object, it may be

potted every season, or twice, as the case may be, or may be planted out.

I shall now proceed to give a brief description of the plant, its flower, fruit, habit, and the general treatment it requires. It is the case with this, as with many other new plants—many people obtain them, and before they give themselves sufficient time to prove the qualities of the plant, they condemn it. Or, perhaps, one sees a plant in a friend's possession that is not doing what it really ought in the way of prosperity; and it thereby obtains an ill name, and is said to be not worth growing. But those who see the *Eugenia Ugni* in a flourishing condition cannot condemn it. The plant requires the thumb and forefinger to be used pretty freely, whilst in a very young state, in nipping the points of the young shoots out when they reach the length of three inches. This will bring them into nice bushy plants, which habit they will retain afterwards with a very little stopping. If this be not attended to, the plant will grow loose and straggling, and in a few years become quite ugly. But with attention to the foregoing directions, the plant may be made sufficiently sightly to occupy a place in any conservatory; and with its beautiful dark green foliage would, indeed, form a very ornamental plant for such a situation, for it may be grown into any shape you please.

The foliage is not the only beauty the plant possesses; for the flowers are amongst the prettiest of the inhabitants of the greenhouse or conservatory. They are small, it is true, but not the less beautiful. They measure nearly half an inch in diameter; are of a creamy white colour, and of a thick waxy substance. They are produced in such abundance (if the plants have received judicious management), as to make quite a pleasing object; and were there no other quality in the plant, this one would be sufficient to repay any one for the trouble it would require. But it is not the only one: for the fruit has been proved to be quite wholesome; and is of such a beautifully rich flavour, that it deserves to have a place amongst the dessert on every gentleman's table, which it will have, I feel confident, in course of time. It is about the size of a large Black Currant. Its colour is rather uncertain, varying according to the treatment it receives; sometimes being nearly white; at other times of a light red; and sometimes a very dark red, nearly a crimson. But the colour does not affect the flavour of the fruit that I can perceive, which is that of a very rich Pine or Strawberry—more like the latter: and it is for the fruit that the plant will be generally grown. It may, at first, appear to some that it would never answer to grow a plant to the size it is likely to attain, for a few fruits so small as these are; but when it is a fact that a small plant nine inches high will produce from two to three dozen fruit, a near estimate may be formed of what a plant three or four feet high ought to produce.

The plant that was shown at the great fruit exhibition at Willis's Rooms in the autumn of last year, was a very bad example as to the productiveness of the plant. I had at the time small plants in 48-sized pots that had more fruit on them than that had. I had an opportunity of seeing the fruit (on that which obtained the first prize at that exhibition) growing on the plants; and it was entirely gathered from plants in 48-pots, varying from nine to twenty-four inches in height, which had been grown in a cold pit for the last three winters, with no covering whatever but the lights. Other plants had been grown and fruited in one of the greenhouses, which produced fruit nearly double the size of that which was exhibited: but the whole of the fruit was gathered from them before the exhibition took place; otherwise a much finer dish might have been produced. This will give an idea whether it is likely to be prolific enough for general cultivation, which I consider it is; and I think it would make a most delicious preserve.

A few remarks as to its culture, and I think I have done. Those who obtain the plants at this time of the year (as I said before), will have them in pots sufficiently large to flower them, which will take place in the spring. As soon as the flowers are gone, and the fruit is beginning to swell, a shift (if it is intended to keep them in pots), will be required; which should be into a pot a size larger, in a compost of loam one part, peat one part, and a little leaf mould, and thoroughly decayed dung, with a little sand. This shift will be sufficient for them until the following spring; or even two seasons may elapse before another shift is required: but, of course, if shifted every spring, a much larger supply of wood will be obtained. Soon after the plant has received the shift, it should be examined; and where a long shoot can be spared without taking away the fruit, it should be shortened, so as to give the plant a uniform shape; and by cutting any piece that may require it at this time, it will allow sufficient time for the plant to make and ripen its young wood for flowering and fruiting the following season, which will be produced at the base of the leaf on the wood of the preceding year's growth. The only care it will require after this will be to keep it moist through the summer, but not to give too much water during the winter months.

If it is intended to be planted out, a south wall would be the best place for it in some warm sheltered place. A hole should be dug; and a little of the above-mentioned compost supplied to plant it in. The planting should be done firmly. All that will be required in such a situation will be to attend to the pruning, as before, and watering in the summer. A slight protection from late spring frosts would be acceptable; but when grown in a conservatory, greenhouse, pit, or in a window, as much air as possible should be given.—W. Reeve.

HARDY BORDER-PLANTS FOR JANUARY.

I beg to hand you a list of the best hardy plants that have bloomed here during the past month; and shall be glad to continue it throughout the season, if you consider it of the least interest to any of your readers. [Certainly.]

Owing to the unusual mildness of the weather, there are, of course, many others flowering prematurely. But I only mention such as bloom in their natural beauty about this time: and those who are collecting winter blooming plants will find them all indispensable.

Amongst handsome flowering shrubs, I may mention, that on a south wall during the month we have had *Jasminum nudiflorum*, *Pyrus japonica*, red and white, and *Chimonanthus fragrans*, in great perfection; and in the American ground, the rich scarlet trusses of *Rhododendron Nobleanum* have been conspicuous. This is the best of all the Rhododendrons for early forcing; and one of the gayest plants possible for the conservatory, during December and January.

Name.	Colour.	Date of flowering.	Height. *Feet.*
Tritonia media	scarlet	1	3
Sisyrinchium grandiflorum	crimson	1	¾
——— flore albo	white	24	¾
Helleborus niger	white	1	½
——— *var.* angustifolius	white	1	½
——— atro-rubens	deep crimson	6	1
——— flos-albus	white	10	1
——— olympicus	purple	1	1½
——— ——— flore albo	white	4	1½
——— orientalis	cream	11	1
——— purpurescens	plum	18	¾
Eranthes hyemalis	yellow	20	⅓
Galanthus nivalis	white	25	½

—James Rae, *Edinburgh.*

GARDEN ROCKERY.

In the spring of last year we constructed a rockery which has proved a great source of amusement during the summer.

Your correspondents, "W. E.," and "S. P.," allude to the desirability of cultivating usually-overlooked British plants. Knowing these flowers were, many of them, very beautiful and interesting, we introduced a variety among the crevices of the clinker-work, where they throve famously, manifesting their superiority over many foreign importations.

The rockwork is oval on plan, having an opening in the front; and is formed with irregular bays (carried up into pinnacles above), in which are placed Ferns, standard Roses, and Fuchsias. On the inside is a pool containing gold and silver fish, with iron basin rising from the centre of the water, throwing an upright jet eleven feet high. At the square base of the tazza are eight minor fountains supplied from the basin itself, and playing into the pool. From the sides of the rockwork five larger jets rise to the vase. The sides and back are bordered with grass; the garden walks passing off right and left from the front.

Herewith is a list of the plants growing on this rockery, among which, "W. E.," and "S. P.," will, no doubt, recognise some of their favourites.

Asperula odorata
Aubretia purpurea
Antirrhinum
Ajuga reptans alba.
Ajuga Genevensis
Antennaria lupina
Arabis præcox
Anemone (single and double)
Arenaria cœspitosa
Cerastium tomentosum
Campanula glomerata
Cheledonium majus
Crucianella congesta
Caltha palustris
Corydalis lutea
Cheiranthus alpinus
Convallaria majalis
Cotyledon umbilicus
Daphne cneorum
Dielytra formosa
Dianthus deltoides
Erica herbacea
Eschscholtzia crocea
Filices (various)
Geranium sanguineum
——— phæum flore pleno
Helianthemum venustum
——— flore pleno
Hepatica triloba
Hyacinthus nonscriptus
Linaria cymbellaria
Lotus corniculatus flore pleno
Lysimachia nummularia
Myosotis cœrulea
——— alba
——— intermedia
Orobus hirsutus
Oxalis acetosella
Phlox subulata
Polemonium cœruleum
Primula vulgaris
Polygala chamœbuxus
Potentilla tormentilla
——— anserina
——— fragaria
——— reptans
Ranunculus ficaria
Saponaria ocymoides
Saxifraga aizoon
——— granulata
——— granulata plena
——— pedatifida
——— umbrosa
Sedum acre
——— album
——— Anglicum
——— dasyphyllum
——— dentatum album
——— dentatum rubrum
——— luteum
——— populifolium
——— rupestre
——— squalens
——— Siebaldii
——— telephium
——— arachnoideum
Sempervivum globosum
Silene alpestris
Tormentilla
Tussilago farfara variegata
Tanacetum luteum
(*foliage strikingly beautiful.*)
Tradescantia virginica
Valeriana montana
Veronica saxatile
——— microphylla
Vinca minor
Viola odorata
—— flore pleno
—— tricolor

Many of your readers possess only a small yard. It might become a source of great pleasure, by some such arrangement as the above. The small cost placing it within the reach of most cottage gardeners.—E. C.

IRON STOP-COCKS FOR HOT WATER PIPES.

It is not my intention to say anything disparagingly of wooden plugs as substitutes for valves or stopcocks; for, when an apparatus, with an open cistern attached to it, into which the flow-pipe from the boiler discharges itself, has to heat houses in opposite directions, and it is desired to heat only one way at a time, the wooden plugs serve the same end as the most costly valve or stopcock. But, when no open cistern is used, or when only one main flow proceeding from the cistern heats a number of houses, the plug is useless in order to stop the heated water from entering any one particular house; and to find an inexpensive substitute, that will regulate to a nicety the flow of water, is certainly a desideratum. The inexpensive substitutes I use are simply one-inch cast-iron stopcocks. They are used by many, I believe; but their usefulness is not generally known.

Perhaps it may benefit some of your amateur readers to learn of their existence in connection with a hot-water apparatus. It is true that they require a little care, as they are liable to get rusted-up; but if boiled in lard previous to fixing, no rusting will ensue. I use them in connection with one-inch pipes, which serve the purpose of flows and returns from the boilers to the large pipes in the houses; and four of them, placed at intervals of sixteen feet along a one-inch pipe, regulate the circulation in the large pipes in four Pine divisions; but by using diminishing connexions, and without the assistance of small pipes, they can be fitted to large pipes, and then serve the purpose of a fifty-shilling valve.

In an apparatus which I had recently fitted up, I employ fifteen of these little stops, which cost only 4*s.* 6*d.* each. If I had had valves instead, the contractor's bill would have been considerably larger, without adding proportionate value to the practical working of the apparatus.

In The Cottage Gardener, mention has been made of the usefulness of one-inch pipes, for the purpose of conveying the heated water from the boiler to the large pipes in hot-houses; but some, who have not had an opportunity of witnessing the working of these little pipes, are still credulous. To them I can only say, go where they are at work—at Kilochan Castle, Ayrshire, N.B.; West House, Rotherham; Moreton Lodge, Buckingham; and be convinced of both stopcocks and little pipes.—Corvus.

FORCED HYACINTHS AT EDINBURGH.

With great reluctance we are compelled to contradict your correspondent, "William Baxter," who states, in a recent number of The Cottage Gardener, that "we stood dux at the wrong end" with forced Hyacinths at the Exhibition in Edinburgh last spring.

Of course, it must be apparent to your readers what position we *did* occupy; and by a glance at the report of the Show in the *Florist* for April, as well as your own journal, it will appear that we had a narrow escape of being placed "dux" at the *right* end. And if Mr. B. was a Judge on that day, he must recollect the difficult work he and his compeers had in judging the six collections exhibited by nurserymen; for, to our certain knowledge, they were full an hour and a half in coming to a decision, and *then* we were placed second by a single point *only*. However, our opinion, and not ours only, is, that it was the dressing of the foliage with moss that gave the winners the advantage.

On the morning following the exhibition this opinion was confirmed by one of the exhibitors, who obtained high honours, calling his gardener to show us how the Edinburgh growers managed to beat us. He took one of our plants, and placed a handful of moss upon the top of the pot, arranging the foliage at equal distances, and pressing a piece of moss tightly between the base of the foliage and flower-stem, which kept it in a firm position. So much did it alter the appearance of the plant, that we should not have known it again had it been done out of sight. Still, we consider the prize was justly awarded; and such opinion we publicly expressed on the day of exhibition.

We consider the above statement a sufficient reply to your correspondent's question, "How did they stand with the growers in Edinburgh?"—Wm. Cutbush and Son, *Highgate Nurseries.*

THE WEATHER AT LINTON PARK, KENT, IN 1857.

	Rain in inches.	No. days on which rain fell.
January	3·13	21
February	·27	6
March	1·27	12
April	1·76	16
May	1·06	9
June	1·67	7
July	1·07	8
August	2·93	12
September	5·41	16
October	3·12	13
November	2·15	11
December	·49	6
Total	24·33	137 days' rain.

The prevailing winds during the year were as follows:—

	Days.
East	14
South-east	47
South	37
South-west	81
West	37
North-west	38
North	21
North-east	86
Changeable, or not determined	4
Total	365

The greatest amount of rain at any one time was on the 8th, 9th, 10th, and 11th of September, when 2·78 inches of rain: 1·35 being on the 11th; and the longest period without

any rain was from the 5th to the 16th of December—eleven days.

The highest range of the barometer was on the 13th of December, 30·30; and the lowest, October 8, 28·48.

June, August, September, October, November, and December, were all warmer months than they usually are. May and July not remarkable. February very dry. April more exempt from late frosts than usual. January and March not remarkable.

The past year has been regarded as, on the whole, favourable to vegetation. The rain and warm weather in September started everything into life with hotbed speed; and the showers before that time fell at such periods as did much good.

There was such a total absence of frost in the autumn, that Potatoes, left in the ground, started growth, and were eight inches high and more in unsheltered situations; and they remained unhurt by frost till after Christmas-day. Other plants, of tender habit, were in like manner unscathed by the cold, though suffering from the damp, dull days; and flowers of various kinds might be gathered up to the end of the year—Roses, especially, being very good.

With us, 1857 has been drier than 1856, though not so dry as 1855; the rain on these two occasions respectively being 27·79 and 20·84 inches.

The sharpest frosts were on January 1st, 17°, and January 6th, 18°. Between and after these dates the frost continued steadily from 13° to 8° below the freezing point.—J. Robson.

DESTROYING WEEDS ON WALKS.

Few things are really more annoying than weeds or moss on garden walks; and any cheap mode of destroying these, without disturbing the walk, or injuring it or the edging, would be regarded as a boon of great worth. Salt and hot water have long been tried with varied success; but on a firm, compact, surfaced walk, there is a shiny substance left behind, always unpleasant and unsightly. On walks having a little loose material at the top, this evil is not felt; and, consequently, salt will do in this case. But for the other, I should like some of our chemical friends to furnish us with a cheap and an efficacious receipt for destroying these unsightly intruders. We all know gas water will do this: but when this article is to carry twenty miles or more, it cannot be used very extensively. Some cheap soluble poison would seem to me to be the best. I have seen some refuse copperas answer very well; but I fear that cannot be obtained in sufficient quantity. I have also seen arsenic used in a similar way. But it is only near manufactories of such articles that they can be obtained: and, perhaps, after all, it would be unsafe to encourage their use in every case, as the roots of trees and shrubs running underneath would suffer. Yet there are cases in which, I think, it might be used with advantage and safety: and I hope some of our chemical friends will test it and report the result, as an efficient "weed destroyer" is much wanted on closely-bound walks (the hoe and fingers will do elsewhere). As we have an abundance of insect destroyers, and rats and mice are said to succumb to the many compounds prepared for their annihilation, let us have a "weed destroyer" added to the list of deadly ingredients furnished to our use.—John Robson.

QUERIES AND ANSWERS.

TO MAKE A YOUNG WALNUT TREE FRUITFUL.

"I wish to ask for information regarding the treatment of a Walnut tree standing in my orchard; having been planted, as I suppose, upwards of thirty years, growing luxuriantly in a light soil, sloping to a river which flows about forty yards from it. It never yet has shown the least inclination to bear a fruit."—J. H. P.

[It is very seldom that a young Walnut tree which grows luxuriantly produces any fruit: and it is equally rare to see old trees of it, which make very little fresh growth, fail to bear abundantly in a "Walnut year." Therefore, after a young Walnut tree comes of age to bear fruit, and fails to do so, the only mode known to gardeners to cause it to bear is to check its growth, so as to cause it to make short-jointed young wood, like that of an old tree. But as the Walnut is not an easy tree to transplant, after having had its own way for thirty years, the next best plan is to root-prune it in the spring. First, ascertain if there is a tap root or roots. If there is, cut them as near to the bottom of the tree as you can reach. If there are no tap roots, or only one, you should cut one-third of the strongest side roots a yard from the tree. First, open a trench all round at that distance before you cut any roots; then you will be able to judge better which roots to cut. Always cut the strongest. Where you meet a space with less roots, or no roots, work back from that part of the trench in search of tap roots.]

MANAGEMENT OF PANCRATIUM MARITIMUM—VARIEGATED-LEAVED GERANIUM FOR BEDDING—HERBACEOUS PLANTS.

"I have had *Pancratium maritimum* for several years; but I cannot get it to flower. Should it be taken up in the winter? I let mine remain in the ground. I should also feel obliged by your saying which scarlet Geranium with white variegated leaves you would recommend *for bedding*. I have tried *Mountain of Light*, but I have not succeeded well with it. Is *Mountain of Snow* as good as any other? It is recommended by some. I should like a good flower as well as a good variegation.

"Is there any bedding Calceolaria of the same colour as *Amplexicaulis*, with a better-shaped flower, and habit not so tall as that variety? May I trouble you to give me the names of a few of the best hardy herbaceous plants in your next."—An Amateur.

[This hardy *Pancratium* flowers, or never fails to bloom, in most parts of the country; and in other parts it is rare to hear of one of it in bloom. There are three kinds of these bulbs cultivated under one name; and two of them flower very sparingly: they are *Maritimums* from different localities. *Maritimum Illyricum* is the true flowering kind; at least, it flowers much more freely, and it can only be distinguished by its leaves dying down in winter. The true old *Pancratium maritimum* is difficult to bloom. The old way of managing it is "to set it out doors late in the spring; and at the latter part of the summer to bring it into the stove to flower, removing it afterwards into the greenhouse." That is probably your bulb, but not the modern *Maritimum*, which blooms freely in any common border. For a bed of *Variegated-leaved Geraniums* we prefer *Brilliant;* but that is no reason why you should. For an edging, *Flower of the Day* has had the greatest run. But we still want a good variegated Geranium, with a large truss and good colour.

There is no bedding or pot Calceolaria of the same colour as *Amplexicaulis*.

Doronicum Austriacum is the best of the earliest herbaceous plants. *Dielytra spectabilis* has no rival in that class. *Lupinus polyphyllus* is the best Lupin; and there is a white kind of it. *Œnothera macrocarpa* is the best of that class. *Papaver orientale* is the most beautiful of all the Poppies. *Delphinium formosum* the same among Larkspurs; but they and Pentstemons, Mimulas, Potentillas, Phloxes, Campanulas, and all such numerous genera should be brought in collections of from six to three kinds, and the responsibility left to the dealer. You buy all from a perfect list, and you will have no redress, as many of the best kinds have more than one name. The latest of the best kinds is *Tritonia aurea*.]

MELON GROWING.

"The few words in a late number concerning Dr. Beck's success in growing Melons have made my mouth water. You must know that I consider a *good* Melon as the king of all fruits. I grow them pretty considerably: and, like Dr. Beck, manage them almost entirely myself, save the assistance of "a gossoon." I generally succeed pretty well; but the last two years I have been much less successful: and had it not

been for a small house where I grew *Fleming's Hybrid* trained to the rafters, and which fruited profusely, I should have been very badly off indeed. Last summer, especially, my Melons in frame were mostly attacked by a kind of *dry rot* at the collar of the stem, which became nearly white, dry, and powdery; and in a few days the leaves withered; and none of the fruit which were then swelling came to maturity. What was it? I wonder whether Dr. Beck would give us an outline of his method of the culture and *pruning* of the Melon; as also the names of the six *best* kinds, both green and yellow, numbered according to their excellence—No. 1 going for the best—and thus confer an immense obligation on—Italicus," *Ballymahon.*

[There is nothing more in Dr. Beck's treatment of his Melons than what we have already supplied. The whole secret is this:—Dr. Beck *attends* to his Melons; and he understands them better than nine-tenths of our best gardeners. He only grows the superior varieties of the *netted Egyptian green-fleshed* Melon: at least, he prefers that section. At the present moment there is not a better-flavoured Melon in Europe than the true old *Egyptian green-fleshed*; but it is, like the true *Golden Pippin*, in very few hands at present. We tasted the true kind last summer from the original stock, which was introduced by the Horticultural Society many years ago. The disease in your Melons is well known in England; and, like the Potato disease, no one knows the cause or cure.]

GREENHOUSE CLIMBER WITH STEM OUTSIDE —COLLODION FOR PLANT WOUNDS.

"I should be much obliged if you would recommend me any climbing plants whose roots may be put outside a greenhouse, and the stems and foliage brought inside in the same way as Vines.

"Have any of your contributors tried the virtues of collodion? Last spring I used it for covering the wounds of a young Vine when pruned, and the effect was marvellous in the growth of the leaves and stem, though the Vine was too young to bear fruit."—S. H.

[*Tacsonia pinnatistipula*, *Mandevilla suaveolens*, *Passiflora cœrulea*, and *P. cœrulea racemosa*, and many others, would answer; but there would be no necessity for taking their stems out, as, when once established, you could prune back in autumn. In planting outside, however, care would have to be taken that the stems were secured from frost. Little boxes, six inches square, and packed with sawdust, would be sufficient for the purpose. The climbers would also bloom more freely if the roots were confined to a warm border—say from two to three feet wide, and well drained; and that narrow border might be easily protected from frost in winter.

We have little practical experience of collodion. We suspect your Vine would have been strong without it.]

ASPECT FOR GREENHOUSE—REMOVING PLANTS —COIL BOILER.

"I intend erecting a small lean-to greenhouse, but have only the choice of two positions for it, viz., to face E.S.E., or S.S.W.; the latter will be the most convenient. Please say which will answer best.

"I shall be obliged to change my present residence in March next—say about the 20th. My flower beds are filled with bulbs of various sorts, such as Tulips, Hyacinths, Crocuses, Anemones, &c.; also Roses. Will you be kind enough to inform me if I can remove them then without much injury? and if so, how?

"I have heard of an 'experimental coil boiler,' and should imagine it is a good sort. Can you tell me where I can procure one? or any information respecting it?"—R. F. G.

[There is little difference: the S.S.W. is, if anything, the best; only you may require some shading on bright afternoons in summer.

Take up all your bulbs when the foliage decays; and keep them, when dried, in a dry place until March. Common single Anemones may be transplanted in March; but may also be kept dry until then: they will not bloom so strong. Roses may be transplanted then without danger: only, if taking them far, wrap the roots in puddle, or damp moss.

Mr. Thomson, of Dalkeith, has invented a small boiler, with coiled pipes, through which gas can pass; and, therefore, being heated by gas, we have no doubt it will answer for very small places. There is nothing new in this application of gas. The propagating case, so rightly recommended by Mr. Beaton, is so heated. Perkins, also, used a coil of pipes for his boiler; the coil being placed in the fire-place. We do not at present recollect coiled pipes for a boiler in any other direction. Perkins' pipes were in the fire; Mr. Thomsons, of course, are in the water; and the water heated by the heat from the gas-burners passing through them.]

Salvia Nemorosa.—This fine purple Sage, so highly recommended recently for bees by your correspondent, and advertised for sale in the October number of The Cottage Gardener, was raised from seed, transmitted to the Bury Botanic Garden from Göttingen, labelled *Salvia nemorosa*; being also recorded by that name in Loudon's "Encyclopædia of Plants." It is well adapted for a bedding plant, growing eighteen inches high, and producing a succession of flowers until late in the autumn.—N. S. H., *Bury St. Edmund's.*

TO CORRESPONDENTS.

Work on Gardening (*A Banker*).—You will find all you mention in the "Garden Manual," published at our office.

Gas Light (*A. Z.*).—It will be injurious to the climber, and all the other plants in your greenhouse, unless a tube be fixed over it to carry the noxious vapours arising from the burnt gas into the air outside.

Photographic Apparatus (*Inquirer*).—A good and complete set of apparatus *can* be purchased for the sum you mention. The following prices are extracted and arranged from a trade catalogue. Our instructions for amateurs, will shortly be issued in a pamphlet form. You will there find all the details of manipulation.

	£	s.	d.
Sliding body, Honduras mahogany Camera, with one single back, two inner frames, (one for pictures 5 inches by 4 inches, the other for 2¼ inches by 2 inches), and focussing glass. For pictures, 6½ inches by 4¾ inches	1	8	0
Half-size single Achromatic Lens, 2¼ inches in diameter (diaphragmmed to ¼ inch opening, for pictures, 6½ inches by 4¾ inches, with rack and pinion adjustment, stop, and attachment ring	1	15	0
One twelve-groove Plate Box, for plates, 2½ inches by 2 inches, at 1*s*. One ditto, 5 inches by 4 inches, at 2*s*.	0	3	0
Two porcelain lipped Dishes, one 8 inches by 6 inches, at 1*s*. One 10 inches by 7½ inches, at 1*s*. 3*d*.	0	2	3
Slab of ⅛ inch sheet glass, 12 inches by 9 inches (ground edges)	0	1	0
Gutta Percha vertical dipping Bath, 7¾ inches by 5¼ inches, at 3*s*. Glass dipper for ditto, 6*d*.	0	3	6
Second-size mahogany tripod Camera Stand	0	10	6
Printing Frame, with hinged back, 8 inches by 6½ inches	0	6	3
Two dozen Patent Glass Plates, 2½ inches by 2 inches, at 8*d*. One ditto Crown ditto, 5 inches by 4 inches, at 1*s*.	0	2	4
Two quires Salted Positive Paper, 11 inches by 9 inches, at 1*s*.	0	2	0
Universal joint Head Rest	0	4	6
One quire White Blotting Paper, 1*s*.	0	1	0
	£4	19	4

Buy each article separately, and don't be swindled into purchasing "a complete apparatus packed and sent to any part of the kingdom." Many, by so doing, have been induced to throw up a noble art in disgust.—*Edward A. Copland, Bellefield, Chelmsford.*

Botanical Terms (*Scolopendrium*).—Henslow's "Dictionary of Botanical Terms," published by Groombridge and Sons, will suit you. *Scalebrosum* means "uneven." There is a variety of *Scolopendrium vulgare*, called *sinuosum*; and *scalebrosum*, is a sub-variety of this. It is not a good plan to put flowers of sulphur on slaked quick-lime for fumigating. The heat is too great.

Cottage Gardener's Dictionary (*L. T.*).—No appendix has been published. A second edition has appeared.

Sewage (*Vectis*).—You may apply it undiluted to fruit trees, and the kitchen garden. Water Asparagus weekly with it in summer.

Cucumber Frame (*C. Rosa*).—We have something like a recollection of answering a batch of such inquiries, and soliciting a return of information how the questioner succeeded. It is a sort of retrograde movement, to choose between paper and canvass for Cucumber sashes in these days, and more especially after having the means of heating by a flue. No doubt you may grow good Cucumbers in the way you propose, more especially if you do not sow until about March. Of the two materials, we would prefer stout thin-bleached calico, made waterproof with oil, &c. Before getting your material, would it not be worth while to look at the advertising columns, and see for how little money, Mr. Phillips for instance, would let you have fifty or sixty square feet of glass, varying alike according to the size of square; and then, if you have plenty of heat, you

could grow Cucumbers as early or as late as you liked. We cannot speak authoritatively of your plan for bottom heat, and top heat, by placing tiles on the flue, to rise above the soil; as you say nothing of the position of the soil, or height to the rafters. You would notice sometime ago, pineries, and Cucumber, and Melon houses heated by flues, as described by Mr. Fish; but in that case, the flue was in a chamber, and there were openings from that chamber to let the heat into the atmosphere. If the roots come in contact with the flue, much damage may ensue. We have heard good accounts of *Carter's Champion*, but we have not tried it; we have given some cottagers Hunter's prolific, and with rather tattered frames, but great attention, they have made them to answer well in a pecuniary point of view. There are just two roads to extra fruitfulness known to us; use old sod, or give the plants little root room. See various articles on this subject, and notice of Mr. Foggo's mode of treatment at Shrubland.

Twelve Hardy Shrubs and Dwarf Conifers (*A Subscriber*).—1. Laurustinus. 2. Silver, Gold, and Hedgehog Variegated Holly. 3. Minorca Box. 4. Common Alaternus. 5. Common Phillyrea. 6. Evergreen Berberis (*Berberis aquifolia*). 7. Common Arbutus. 8. Aucuba Japonica. 9. Guelder Rose. 10. Weigelia rosea. 11. Deutzia scabra; and 12. Common Syringa (*Philadelphus coronarius*); but the scent of the Syringa is too powerful for many people, therefore you may choose *Philadelphus Gordonianus*, which blooms much later. The last four or five are deciduous, and the rest evergreens; and all of them will do anywhere in the three kingdoms. But you, who seem to be a young gardener, ought to know that a vast number of trees and bushes, both ornamental, and for their fruit, will not do well in the half of England, or in Scotland, and many parts of Ireland; and knowing that, you ought to say in your letter what part of the three kingdoms your plants were to grow. As to Conifers, you might just as well ask us to make out a list of Dwarf Conifers for the man in the moon; but we have not the slightest idea of what would best suit your place, not knowing where it is. The following will grow in most places:—1. *Juniperus macrocarpa*. 2. *J. Chinensis*. 3. *J. Virginiana* (Red American Cedar). 4. *Thuia* (*Arbor Vitæ*) *plicata*. 5. *T. Orientalis*. 6. *Cupressus Goveniana*. 7. *Irish Yew*. 8. *Golden Yew*. 9. *Abies Clanbrasileana*. 10. *Abies Fraseri*. 11. *Taxus* (*or Yew*) *adpressa*. 12. The new dwarf kind of *Cryptomeria*. There are more of the Firs, Larches, and Cedadar, dwarf enough to be so called.

Hardy Fruits for Yorkshire (*York*).—The following selection will suit you. *Apples*:—Bedfordshire Foundling; Blenheim Pippin; Keswick Codlin; Court of Wick; Dumelow's Seedling; Fearn's Pippin; French Crab; Gooseberry Pippin; Greenup Pippin; Hawthornden; Kerry Pippin; King of Pippins; Early Nonpareil; Oslin; Pearson's Plate; Golden Rennette; Sir W. Blackett's Favourite; Sturmer Pippin; and Tower of Glamis. *Pears*:—Bergamot d'Esperen; Beurré d'Amanlis; Beurré de Capaiaumont; Beurré Diel; Williams' Bon Chrétien; Catillac; Althorp Crassanne; Dunmore; Green Chisel; Jargonelle; Louise Bonne of Jersey; and St. John's Swan's Egg. *Plums*:—Long Damson; Denniston's Imperial; Orleans, Prince of Wales; Victoria; Washington; and Winesour. We have selected only from the list you sent, and have kept in mind that you require them for market. Drain where the subsoil is clay; and there plant on stations.

Names of Plants (*J. M—, Dundee*).—The pod, twenty-two inches long, is the produce of the Purging Cassia, or Pudding Pipe tree, *Cassia fistula*. It is a native of the East Indies, requires a stove, and attains a height of fifteen or twenty feet. It is interesting to know, that the seeds have vegetated after remaining in the pods for eighteen years. (*E. S.*).—Your shrub now blooming for the first time, near the Devonshire coast, is a *Viburnum*; and, we think, from the imperfect specimen *V. cassinoides*. (*A Young Hand*).—You should send your plants to be named when in flower, saying all you know about them yourself. 1 is one of the *Helianthemums*, probably *vulgare*. 2. *Teucrium chamædys*. 3. *Helianthemum serpyllifolium*. 4. *Hypericum*, uncertain which. 5. *Cistus creticus*. 6. *Statice monopetala*. Shorten the upper shoot on each side of the espalier Apple trees to within four or five eyes, in order to fill up the tree with a sufficient number of main branches, letting the others go at full length. (*W. Upright*).—1, We believe to be *Prenanthes alba*; but we are raising a specimen, and shall then be certain. 2 Used to be called *Cactus salicornioides*; but it is now called *Rhipsalis salicornioides*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

February 10th and 11th. Ulverstone. *Secs.*, T. Robinson, and J. Kitchin, Esqrs. Entries close January 25th.

February 16th, 17th, and 18th. Wellington, Salop. *Sec.*, Mr. T. W. Jones, Church Street, Wellington, Salop. Entries close Feb. 8th.

February 22nd and 23rd. South-East Hants. *Sec.*, Mr. James James, Fareham. Entries close February 10th.

February 25th, 26th, and 27th. Hereford. *Sec.*, Mr. Thomas Birch, Hereford.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

SCRAPS FROM, AND TO CORRESPONDENTS.

Although it be unquestionably true, that "les jours se juivent, et ne se ressemblant pas," yet, everything has its season. The great Shows are over; the victorious birds, instead of struggling for the decoration of their owner's sideboards, are bent on the more natural and every-day process of rearing families that are destined to compete with them; and, finally, perhaps, in the common course of things, to supplant them in the post of honour. The defeated exhibitor, like a careful general, while his army is in winter quarters, is repairing that which was faulty, and strengthening that which was weak in the last campaign. Our list of shows is becoming "small by degrees, and beautifully less;" and we were disposed to rest, and "take it easy." We, therefore, gave ourselves up to a half-somnolent state, and humming—

"Writer, rest, the Shows are over,"

we thought of the "Lady of the Lake," blue mountains, murmuring streams, perfumed heather, sleeping in a plaid, making our lair with the stag, and snuffing the morning breeze. We were half disposed to join the projected "chasse" in Algeria, and to eclipse M. Jules Gerard. We believe it is common for men to forget, or to try to forget, the present, and to look forward.

We had arrived at a comfortable competency—just two thousand per annum. Such a garden, that The Cottage Gardener should be full of our doings and experiments; and such a poultry-yard, that the Chronicle of that ilk should have nothing to do but to record our successes. We were thinking over the different styles of building, with a view to select that of our cottage, when there was a rap at the door, and an imp appeared with stripped-up shirt sleeves, bibbed apron, and paper cap—"*Poultry Chronicle*, Sir!"

We were just in the position of Alnaschar, when, in his indignation, he kicked his wife, the Vizier's daughter, and upset the basket of glass, the foundation of his fortune. Of all our riches and happiness, there remained only this fact, that the *Poultry Chronicle* was waiting with open mouth, and we had nothing to feed it with.

Now, a newspaper is like the late Chuny, the elephant of Exeter Change—very tractable and attractive when well fed; but, if starved, the most unmanageable thing in the world. Their daily wants must be supplied. No man, it is said, is a hero before his *valet de chambre*; nor is the editor to the boy who runs from the compositors to the editor's room. The boy (we feel why he is called "the Devil") has no feeling; and thus, when the knock became fainter, the voice louder, and in tones so sharp they passed through our head, he said, "Please Sir, *Poultry Chronicle!*" we felt we must do something.

Let us examine our pile of letters:—"I have shown my fowls nine times lately: at eight Shows they have gained first prizes. With the same Judges at ——— they were entirely passed over. Pray print this remonstrance; as, if such vagaries are allowed, I shall discontinue showing." A good loser—nothing to say to that at present—just possible their previous successes somewhat impaired their condition.

The next, in a neat lady's hand, asks, "What am I to do with all my poultry? I have twice as many as I want, and can only get now the same price that I could have had last September. Only think, Sir, it will be a positive waste of all the food they have consumed; and such a sacrifice to sell such beautiful birds at a market price."

You should have sold in September; and that which is a loss now, would have been a profit then.

Then we read a curious letter from an old friend:—"I think I shall give up—I am tired of success—I win everywhere; and yet, in 1857, made only half as much profit as in 1856. I can't sell my birds." We laughed at this one. In 1856, when his reputation was not so great, he put good but moderate prices on his birds, and they were sold: but now, if he sends four or five pens, all are marked at prohibitory prices. So much for him: but we thought there was room here for a little serious advice to the poultry world generally. Careful selection, and successful exhibiting, will prevent loss; but, to ensure profit, there must be sales. A sufficient sum may be put on each to prevent a great sacrifice in the event of unforeseen success; and yet not so large as to deter a moderate purchaser, who would buy a first-prize pen. Those who march from prize to prize, and yet make but little money at it, wonder how those manage who never rise beyond a high commendation, and are nevertheless satisfied. The truth is, they always sell. A man who breeds a good number of early chickens, and begins at the summer Shows, owes his first success almost as much to the precocity as to the merits of his birds. Now, three chickens hatched in February, and sold in July, say at £3 3*s.*, pay very well. If the same thing be done six times, and the price remunerative to the breeder, is tempting to the purchaser, and therefore renders such sales probable

—then a profit on the year is secured to a small yard, without reckoning the many little incidental helps, like the sale of eggs, &c. We shall shortly have to treat more at length on this subject: this notice belongs to our correspondence.

"Mr. Editor," says the next, "all my early chickens die just as they begin to grow nicely. I had a hen brought off a fine brood of thirteen; and, at three weeks old, they all died but three. They, poor things, crawl about after the hen, with their woe-begone faces, drooping tails and wings, and such looks of distress, that I am half-tempted to order them to be put of their misery. The most annoying thing is, that in the summer, when I am not so anxious to rear chickens, a hen will hatch fifteen, and bring them all up. I set these eggs on purpose to have some chickens for early Shows."

We have often pointed out the mistake that causes this disappointment, and shall have to do so again. If the hen had had but five chickens, she would have reared them all. The days are short and cold, the nights are long, the earth yields no nourishment. Everything is against them. The long fasting during a winter's night can only be compensated by warmth; and this must not be from a stove, or hot-water pipes, but the natural heat of the hen. When the brood is first hatched, the hen covers all easily; but when the chickens are large, she cannot do it, and they all get chilled one after the other. This is why they die when they are about three weeks or a month old.

BUENOS AYRES DUCKS.

I was pleased to see that in your last two papers you have taken up the cause of the Buenos Ayres Ducks, and agree with me that it is quite time they had a class to themselves. At all the Shows you find them number as well as Aylesburies, Rouens, or any other breed; and therefore why should they not have a class to themselves, as well as the two former breeds? They are quite as useful and prolific as either of them, and decidedly more beautiful; and yet they are obliged to compete in a class with all sorts of Ducks. Although I admit they generally take the chief of the prizes in this class, yet there is the greater reason why they should have a class to themselves, as it would give the other breeds a chance. I only hope that when the next Crystal Palace Show comes off, this will be the case; and that all other Poultry Show Committees will follow the good example then set them. I mention the Crystal Palace, as, that Show being second to none, that is where it should be first tried; and there cannot be a doubt on the mind of anyone but that it will answer.—Justitia.

PERCHES.

Ought the perches for fowls to roost on to be broad and flat, or round? Some say they ought to be broad; otherwise they make the fowls crooked-breasted. But how is it with them in a natural state, when they roost on the branches of trees, which are round, as pheasants do? You do not see them with crooked breasts. I should be glad to hear some good opinion on this point: also the proper height for perches. I know they ought to be low for Cochins; but ought they to be so for other fowls? You always find them anxious to get as high as possible: and I should think you ought to study their natural inclinations as far as it is practicable.—An Inquirer.

PRESTON POULTRY ASSOCIATION.

The annual exhibition of this flourishing Association took place on February 3rd and 4th, in the Corn Exchange, Preston. The entries amounted to exactly 950 pens, including poultry and pigeons. The competition in general may be described as excessively severe; almost all the winners at recent Shows appearing at this, the last of the great battles of the season. The Show was carried out with a degree of zeal and energy on the part of the Committee, that is rarely found far away from the north of England, and which was responded to by the entry of birds that were in every way worthy of the large and valuable prizes offered. Where all were so excellent, it may seem invidious to particularise; but it is impossible not to allude to the surpassing excellence of many pens.

In the single *Game Cock* class, 83 birds competed for the President's ten-guinea piece of plate; and by universal consent it was awarded to a magnificent bird, the property of Mr. Gilbert Moss. Side by side was the winner of the Liverpool first prize, also belonging to the same gentleman, and who was here the recipient of the fourth prize, being far distanced by the first-named bird.

In *Spanish Cocks*, a fowl belonging to Mr. Newton had an undoubted victory: although the whole class was highly meritorious, and described by the Judges as one of the best ever seen.

In *Pencilled Hamburgh Cocks* Mr. W. Worrall won, with a golden bird as near perfection as may be attained by any feathered biped. The general Game classes were all very superior; and the Spanish extraordinarily good.

In *Dorkings*, Captain Hornby held his own in both classes; his prize chickens being a wonderful pen. The *White Dorkings* were the weakest class in the Show: the first prize, however, went to a very good pen of birds.

In *Brahmas* the Show was very strong in quality; there not being a pen in either that might not be described as very good. Messrs. Teebay and Catterall swept away all the prizes.

In *Hamburghs*, as might be expected, the Show was unusually strong. In the *Golden-spangles* Messrs. Chune and Brundrit took the prizes; the latter with a pen that excited much discussion. Some well-known Hamburgh exhibitors maintaining that it should have been first; and others that it should have been nowhere. Mr. Worrall showed a very beautiful pen that was highly commended, its chance being put out by the want of condition of one hen.

In the *any other variety* class, the first prize went to a very good and uniform pen of *Guelderlands*, belonging to the Hon. W. Vernon. Second and third to a pen of Black Hamburghs, and one of Malays. Of the latter it was remarked that "they looked as hard as nails, and as cruel as sepoys,"—an expression that was fully borne out by the surpassing lustre of their plumage, and savage expression of eye.

In the *Bantam variety* class, the Judges regretted that they had only two prizes to bestow, so good was the collection. The first prize went to a pen of *White*; the second to one of *Game*. Mr. Worrall exhibited a very pretty pen of brown-red Game that was highly commended. But the gem of the Game Bantams was a perfect little beauty (about one-half the weight of any of those shown for prizes). It was entered for sale by Mr. Tate, and would have been sold twenty times over by ten o'clock.

In *Aylesbury Ducks*, Messrs. Abbot and Weston stood first and second with two pens, weighing each twenty-three pounds. The *Rouens* of Mr. Forrest were superlative; and the *Coloured Call-ducks* of Mr. Dixon extremely elegant.

In *Pigeons* there was a capital collection, particularly in *Tumblers*, *Barbs*, *Fantails*, and in the *extra variety* class. The *Runts* were truly surpassing, Mr. Jones's first prize pen weighing over four pounds and a half.

The Judges were Messrs. Hewitt and Tegetmeier for poultry generally; Mr. Foulds for Game; and Mr. Wolstenholme for Pigeons.

Game Cock.—The President's Piece of Plate, G. W. Moss. Second, E. Nevill. Third, A. Sutherland. Fourth, G. W. Moss. Highly Commended, G. Smith, and T. Salthouse. Commended, T. Shaw, Hon. W. W. Vernon, J. C. Forrest, R. Leigh, G. Boot, R. Sergeneson, H. Worrall, J. Doncaster, E. Archer, and J. Hindson.

Spanish Cock.—First, J. Newton. Second, J. Blinston. Highly Commended, M. Potter, J. Blinston, and J. Busst, jun. Commended, J. C. Forrest, R. Teebay, and G. Robinson. (One of the best classes yet seen.)

Dorking Cock.—First, Hon. W. W. Vernon. Second, W. Evans. Highly Commended, H. W. B. Bewick, Rev. G. Hustler, P. Barnard, and G. Fell. Commended, Capt. W. W. Hornby. (A highly meritorious class.)

Cochin China Cock.—First, T. Stretch. Second, W. Dawson. Highly Commended, J. L. Harrison, and T. Hincks.

Brahma Pootra Cock.—First, J. H. Craigie. Second, P. Catterall, jun. Highly Commended, R. Teebay.

Hamburgh Cock.—First, W. Worrall. Second, E. Archer. Highly Commended, J. Dixon, and A. Fielding, jun.

Hamburgh Cock.—First, W. R. Lane. Second, R. Teebay. Highly Commended, W. Worrall. Commended, J. Robinson, and Mrs. H. Sharp.

Poland Cock.—First, G. S. Fox. Second, J. Brundrit. Commended, J. F. Greenall, and G. C. Adkins.

Game (Black-breasted or other Reds).—Piece of Plate, H. Worrall. Second, W. Dawson. Third, R. Leigh. Highly Commended, W. Ballard, G. W. Moss, J. Hindson, G. Love, and T. Evinson. Commended, Capt. W. W. Hornby, E. W. Haslewood, W. Bentley, G. Banks, T. Robinson, Rev. T. L. Fellowes, and J. T. Paley.

Game (White or Piles).—Piece of Plate, W. Bownass. Second, Capt. W. W. Hornby. Third, J. Dixon. Highly Commended. Messrs. Bird and Beldon. Commended, T. Shaw, Hon. W. W. Vernon, T. Evinson, and H. Shield.

Game (Duckwing and other Greys and Blues).—Piece of Plate, J. Dixon. Second, H. Adams. Third, J. Brown. Highly Commended, J. Dixon, and H. Churchill. Commended, F. Worrall, R. Swift, G. W. Moss, E. Wright, and H. Shield.

Game (any other variety).—Piece of Plate, J. Brown. Second, W. Dawson. Third, J. Dixon. Commended, W. Ballard, E. Houghton, T. E. Abraham, and J. Salthouse.

Game Chickens.—The Committee's Piece of Plate, G. W. Moss. Very Highly Commended, W. Thwaites, and G. Love. Highly Commended, E. Nevill. Commended, W. Ballard, Capt. W. W. Hornby, J. Cox, Mrs. Parkinson, J. Salthouse, D. Parsons, and W. W. Brundrit.

Spanish.—Piece of Plate, W. W. Brundrit. Second, J. Garlic. Third, T. Busst, jun. Highly Commended, G. Hopwood, Capt. W. W. Hornby, R. Teebay, and J. Howard. Commended, E. Cross. (An unusually good class.)

Spanish Chickens.—Mr. Joseph Tate's Piece of Plate, W. W. Brundrit. Highly Commended, Capt. W. W. Hornby, J. R. Rodbard, and J. Busst, jun. Commended, G. W. Moss. and J. Blinston. (The competition in this class exceedingly good.)

Dorking (Coloured). — Piece of Plate, Capt. W. W. Hornby. Second, Hon. W. W. Vernon. Third, P. Barnard. Highly Commended, J. Horrocks, jun., Rev. G. Hustler, E. Lister, W. W. Ruttlidge, and W. Evans. Commended, Rev. G. Hustler, and A. Potts.

Dorking (White).—Piece of Plate and Second, J. Robinson. Third, R. Landless.

Dorking Chickens. — The Secretaries' Piece of Plate, Capt. W. W. Hornby. Highly Commended, A. Potts, E. Archer, and Hon. W. W. Vernon. Commended, J. Horrocks, jun., and R. Gill. (Entries in this glass generally very good.)

Cochin-China (Cinnamon and Buff).—Piece of Plate, J. Cattell. Second, Miss V. W. Musgrove. Third, H. Tomlinson. Highly Commended, T. Stretch, J. K. Bartrum, and R. Sergeneson. Commended, H. James, and Miss I. J. Beverly.

Cochin-China Chickens (Buff).—Mr. Thos. Burnett's Piece of Plate, Mrs. H. Fookes. Highly Commended, T. Stretch.

Cochin-China (Brown and Partridge-feathered).—Piece of Plate, G. C. Adkins. Second, J. Cattell. Third, P. Cartwright. Highly Commended, J. L. Harrison. Commended, J. Jolly, jun., and J. Hindson. (The whole class very good.)

Cochin-China (any other colour).—Piece of Plate, W. Copple. Second, R. Chase. Third, Rev. S. R. Hole. Highly Commended, W. Copple. Commended, J. M. Barnes.

Brahma Pootra (Pencilled).—Piece of Plate and Third, P. Catterall, jun. Second, R. Teebay.

Brahma Pootra (Light).—Piece of Plate, Second, and Third, R. Teebay. (Brahma Pootra class very superior.)

Hamburgh (Golden-pencilled). — Piece of Plate, W. M. Lilly. Second, W. Worrall. Third, W. W. Brundrit. Highly Commended, S. B. Eveleigh, W. Pierce, and Rev. T. L. Fellowes. Commended, Mrs. Parkinson, Mrs. H. Sharp, G. Fell, and J. Worthington.

Hamburgh (Silver-pencilled).—Piece of Plate, E. Archer. Second, Hon. W. W. Vernon. Third, H. Horton. Highly Commended, E. Archer. Commended, Mrs. Cross, J. Dixon, and W. Maud.

Hamburgh (Golden-spangled).—Piece of Plate and Second, J. B. Chune. Third, W. W. Brundrit. Highly Commended, W. Worrall, J. Bamforth, and M. H. Broadhead. Commended, J. Ashcroft, W. R. Lane, J. Robinson, and J. Smith. (A very superior class.)

Hamburgh (Silver - spangled). — Piece of Plate, J. Robinson. Second, R. Teebay. Third, J. B. Chune. Highly Commended, R. Teebay, Mrs. H. Sharp, and Miss Beverley. Commended, J. Robinson.

Poland (Golden).—Piece of Plate, J. Conyers, jun. Second, J. F. Greenall. Third, D. Wilson. Highly Commended, J. Dixon, and H. Churchill.

Poland (Silver).—Piece of Plate, J. F. Greenall. Second, G. C. Adkins. Third, J. Brundrit. Highly Commended, R. W. Fryer, and G. Fell.

Poland (any other variety).—Piece of Plate, J. Dixon. Second, G. Ray. Third, J. F. Greenall. Highly Commended, G. Ray. Commended, G. C. Adkins, J. Bamforth, and T. P. Edwards.

Any other Variety.—Piece of Plate, Hon. W. W. Vernon (Guelderland). Second, J. Ashcroft (Black Hamburghs). Third, Mary A. E. Dymond (Malay). Highly Commended, J. Dixon (Malay); W. Dawson (Sultans); and W. Rodgers (Malay). Commended, C. Ballance (Malay).

Bantams (Gold-laced).—First, G. C. Adkins. Second, Mrs. A. G. Brooke. Highly Commended, G. J. Horner.

Bantams (Silver-laced).—First, J. and R. Blackburn. Second, J. Billyeald.

Bantams (any other variety).—First, H. P. Watson. Second, T. T. Parker (Game). Highly Commended, W. Worrall (Game); Mrs. Parkinson (Game); J. H. Craigie (Game); T. Evinson (Game); and Mary A. E. Dymond (White).

Ducks (Aylesbury).—First, J. Abbot. Second, J. Weston. Highly Commended, M. Wood, and B. Cotton. Commended, J. Weston, E. Lister, and Rev. J. B. Smith.

Ducks (Rouen).—First, J. C. Forrest. Second, H. Worrall. Highly Commended, W. Evans.

Ducks (any other variety).—First and Second, J. Dixon (Grey Call and Buenos Ayres). Highly Commended, J. C. Forrest (Grey Call); W. Evans (Buenos Ayres); and W. Seddon (White Call). Commended, H. Churchill (Buenos Ayres).

Pigeons.—*Tumblers* (any variety).—H. N. Pedder, Esq., Piece of Plate, E. W. Lingard. Commended, J. Brown. (C. Hill. This would have won the prize, but arrived too late.) *Tumblers* (Almond).—First, E. W. Lingard. Second, J. T. Lawrence. Commended, G. W. Hartley. *Tumblers* (any other variety).—First, J. Percivall. Second, J. M. Eaton. *Carriers.*—First, J. Percivall. Second, G. C. Adkins. *Pouters.*—First, J. Firth. Second, G. C. Adkins. Commended, G. Ure. *Runts.*—First, P. H. Jones. Second, E. W. Lingard. *Jacobins.*—First, G. C. Adkins. Second, Mrs. A. G. Brooke. *Fantails.*—First, G. Ure. Second, J. T. Lawrence. Highly Commended, G. C. Adkins. Commended, W. Bromley. *Owls.*—First, F. C. Esquilant. Second, J. Billyeald. Commended, W. H. Richardson, G. C. Adkins, and P. H. Jones. *Trumpeters.*—First, G. C. Adkins. Second, J. E. Mapplebeck. *Barbs.*—First and Second, P. H. Jones. Commended, J. H. Craigie, and J. T. Lawrence. *Turbits.*—First, G. C. Adkins. Second, Mrs. Parkinson. Commended, I. Monkhouse. *Nuns.*—First, H. Holdsworth. Second, J. Firth. *Dragoons.*—First, J. E. Mapplebeck. Second, J. Brown. *Any other new or distinct variety.*—First, Mrs. Parkinson (German Swallows). Second, F. A. Laomdee (Frillbacks). Highly Commended, F. C. Esquilant (White Turbits). Commended, G. C. Adkins (Magpies).

Extra Stock.—Highly Commended, Mrs. Farrington (Turkeys). Commended, Capt. Yates (Turkeys).

OUR LETTER BOX.

Pencilled Hamburghs.—The Rev. T. L. Fellowes, Beighton Rectory, Acle, Norfolk, will be much obliged by our correspondent, "H. B.," communicating with him by letter, as Mr. Fellowes wishes to write to him relative to Pencilled Hamburghs.

Poultry House and Yard (*R. B.*).—We should include the Plane tree; it will afford very grateful shade to the fowls in summer. Make the yard as large as you can afford; the birds would *live* in a space fifty feet long, and twelve feet wide; but to *thrive* they require more space. Can they not be allowed to ramble over the field. Have the roosting place separate from the nest place, and each about twelve feet by six feet. Merely for eggs, the cocks need not be of the same variety as the hens. One foot from the ground is quite high enough for the perches. You will find full particulars and measurements in the "Poultry Book for the Many," price *sixpence*, published at our office.

Challenge.—I have read the remarks of "H. B." on the late award of prizes at the Crystal Palace Poultry Exhibition; and so satisfied am I of the correctness of his opinions, that I will show the stag and two Pullets, exhibited in Class 26, Pen 592, Duckwings, "Highly Commended," for £5, £10, or £20, against the Second, and Third Prize Pens; to be judged by a competent Judge, and one who has never seen either of the pens before. I am well aware there is no appeal against the decision of the Judges, as Rule 4 of the Society's list states; but I must think, that a bird with one eye, is quite as imperfect as if it had but one leg, and should at once have been disqualified.—Fair Play. (I enclose my card.)

Duckwing Game at Liverpool (*A Subscriber*).—The birds shown in the name of Armstrong, belong to Mr. Moss; Armstrong is in Mr. Moss's service.

Sultan Fowls.—"Will you inform me whether it is most proper for the fowls of the Seraï Táook, (or fowls of the Sultan), to have a beard or not? Would one with a beard, and one without, stand any chance at an Exhibition? The cockerel is a splendid bird, but without a beard; and one of the pullets is also without a beard; but all beautifully feathered."—A Sultan.—[The rules for Sultans are not laid down; but it is certainly desirable that they should have beards. If, in a separate class, the want of them would be a disqualification; but shown as a variety, we think they would take a prize, provided they were all alike. They would not, under any circumstances, if some were bearded, and some were not.]

LONDON MARKETS.—February 8th.

POULTRY.

The trade remains very dull; and although a scarcity of really choice Poultry is perceptible, yet the rise is not so great as usual at this season of the year.

	Each.		Each.
Large Fowls ...	5*s.* 0*d.* to 6*s.* 6*d.*	Wild Ducks ...	2*s.* 3*d.* to 2*s.* 9*d.*
Small ditto.....	3 6 ,, 4 0	Teal.....	1 9 ,, 2 0
Chickens.....	2 3 ,, 3 0	Pheasants	1 9 ,, 2 3
Cock Turkeys .	9 0 ,, 14 0	Partridges.....	1 6 ,, 0 0
Hen do.	7 6 ,, 8 6	Hares	2 6 ,, 3 0
Goslings	7 6 ,, 8 0	Rabbits	1 4 ,, 1 5
Ducklings	2 6 ,, 3 0	Wild ditto	0 9 ,, 0 10

Pigeons..... 0*s.* 9*d.* to 0*s.* 10*d.* each.

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WEEKLY CALENDAR.

D M	D W	FEBRUARY 16—22, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
16	Tu	Shrove Tuesday.	30.073—30.049	55—26	S.	—	15 a. 7	14 a. 5	8 a. 38	3	14 21	47
17	W	Lent begins. Ash Wednesd.	29.992—29.966	56—34	S.	.01	13	16	10 0	4	14 17	48
18	Th	Epacris impressa.	29.999—29.964	55—33	S.W.	—	11	18	11 26	5	14 12	49
19	F	Erica transparens.	30.145—30.093	48—30	S.W.	.01	9	20	morn.	6	14 7	50
20	S	Erica rubra calyx.	30.180—30.129	52—30	S.W.	.01	7	22	0 54	7	14 0	51
21	Sun	1 Sunday in Lent.	30.278—30.227	53—33	S.W.	—	5	23	2 23	8	13 53	52
22	M	Erica vernalis.	30.255—30.230	55—25	S.W.	—	3	25	3 45	9	13 46	53

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 45.2° and 31.4°, respectively. The greatest heat, 58°, occurred on the 21st, in 1846; and the lowest cold, 2°, on the 17th, in 1855. During the period 131 days were fine, and on 86 rain fell.

NURSERY CATALOGUES—HARDINESS OF SEEDS—RIBBON BEDS—PROPAGATION BY CUTTINGS.

About the time of the first Reform Bill, of 1832, there was nothing in any way connected with the progress of gardening, in this country, which so much needed reformation as the seed and plant catalogues of the trade. The ruinously extravagant projects, and the irresponsible power of one man, Mr. Sabine, had brought the affairs of the London Horticultural Society to a dead lock two years before that year, and "a paid secretary" was the foundation of the next start of the reformed Horticultural, and a panacea for curing all the evils of an irresponsible power in the eyes of the most sanguine reformers of the old body. Now, if politicians had then enacted, in their reform, that their members and men in power should be paid, the chances are that *their* reform would also have come to a dead lock ere now, like ours of the Horticultural.

Our second wheel having stopped this time two years, after running in dry sockets for ever so long; therefore, our reforms of management have failed as completely as anything that ever failed in this world. But all this time a constant and visible reform was going on, from year to year, in all our practice, and the worst part of our system of doing business progressed the most rapidly—that system was, and still is, a yearly publication of all the principal articles on sale, for the use and guidance of those who wish to buy. There is very little more that we can desire in the systems pursued in our trade catalogues; for they are not all on one system. But I myself have felt, for some years, a great defect in the "getting up" of these catalogues, although I never said, or wrote, a word on the subject to any one; and were it not for this "reform movement," by Lord Palmerston, I might have been dead and gone without giving my best legacy to the nursery and seed trade, and to the gardening world in particular.

The most valuable part of my library is what I have retained of the periodical literature of the trade—their catalogues and their advertisements. Since the year 1826, I have volumes of them; and it is from the ungainly sizes, the odd shapes, and the unequal proportions of the tops and bottoms of these "annual registers," that a sense of reform in the system of issuing them was forced on my attention. My reform and legacy must go together; and here they are. I would first have it enacted that all the nursery catalogues and seed lists in Europe and America be made exactly of the same shape and size, so that the different catalogues, like the different numbers or parts of The Cottage Gardener, might be bound into a yearly volume, or volumes. I have abundance of such volumes, and can speak to their use and value; but there are no "heads or tails" to them; and some of the very best I am obliged to leave out altogether, for their awkward shapes. All the trade send these catalogues every year to their regular customers, and to the editors and writers of gardening works. In this last capacity a great number of catalogues are sent to me yearly; and my practice has been to bind them up into yearly volumes, as far as the bookbinders would undertake the trouble. After a few years these volumes are of great value for reference; and I am quite sure, from my own experience, that there is not another yearly-made book in one's library that would be more useful to any family in the three kingdoms, who has the advantage of a garden, than such a volume of catalogues, and for this one reason—that almost every one of them has a different recommendation for the use and guidance of amateurs, who know little of the matter in hand.

Suppose one to be a great admirer of Roses, and o little else, he should be able to *talk* on Roses with experienced people; for that is one of the greatest pleasures about any hobby. To be able to talk learnedly on the subject with others, he should buy all the Rose catalogues, or have them sent him free, and he should bind them up into yearly volumes; and he would learn how to grow Roses; to prune the different kinds; to spell their names properly; which was the best pillar Rose; the fastest-growing climber; the best for tall and dwarf standards, and a hundred other ideas which might not occur to a regular practitioner; besides knowing the prices of the different kinds in the different nurseries. All the Rose catalogues can be bound, in a strong, serviceable cover, for less than one shilling, judging from what Mr. Diamond, the principal bookbinder here, in Kingston, charges for binding my catalogue volumes. The greatest bore in the world is to have scores of different catalogues lying about, when one has to look for the name of some plant, or seed, or nurseryman; or to ascertain what Rivers, or Veitch, or Lee, or Henderson, or Legion, has to say, or to offer in this or that branch; but bind their catalogues as I do, and they are so many dictionaries. Then, on their part—although you may never give them an order more than I do—knowing that you take care of, and preserve their lists, many of them will give their catalogues for the mere postage, on the chance that you will name the best lists among your friends, and thus spread a knowledge of their business in your part of the country. Therefore, let us pass a reform bill this very season, not to compel, but to authorise all those we desire to be remembered, and to be more known in the gardening world, to fix on some given size for their catalogue, and to adopt that one size in all their catalogues; in order that their customers, friends, and the rest of the public, may be able to form these into yearly volumes, or annual registers, of the bulk of the nursery and seed trades.

After that reform, the next step will be to combat a theory which has been set on foot by the authority of

the unreformed Horticultural Society, about garden seeds. That theory assumes that the coldness of our climate destroys the vitality of tender seeds, and that it is not safe to sow the seeds of delicate plants till very late in the spring, or early in the summer; and, as a matter of consequence, that our old practice of sowing early in the spring has been altogether wrong. That theory is certainly based on a false idea. Mere cold has no bad effects on any of the seeds we usually sow in the spring. If the soil is tolerably dry, and in good condition, all the usual seeds may safely be sown at the usual times; some in February, and some in March and April, no matter how cold the spring may be. Ten degrees of frost are as much cold as we may expect after the middle of February; and that amount of cold does not affect any kind of seed which we usually sow in the spring; nor, indeed, any kind of seed whatever, as far as I know; and I know many kinds of the most tender plants we use in flower gardening, the seeds of which will stand, unhurt, the coldest of our winters, without the least harm. Say the Heliotrope, for instance. What can be more tender than the Heliotrope, which the first degree of cold in the autumn destroys? Yet, no degree of frost, in our climate, has been known to kill a Heliotrope seed. Seedlings from self-sown seeds in the autumn, on the surface of the Heliotrope beds, come up next summer, as if we were exempt from frost altogether. It was only last summer that seedling Heliotropes were sent to me from a lady in Norfolk, from one of her beds, in which Heliotropes were growing three years before. These seeds must have been frosted the first winter, and buried too deep afterwards to be able to vegetate for the next two years. But the third time the soil in which the seeds were buried was brought to the surface, say this time last year, or, perhaps, a month or two earlier, when they must have been frosted a second time; yet, that did not hinder them from vegetating. What difference would it make if these Heliotrope seeds were sown out of a paper packet from the seed shop? None whatever.

When I showed the Heliotrope seedlings from Norfolk to the gardener of the Experimental, I discovered that he, too, had a march of practice a-head of the Horticultural Society authorities, for he told me on the spot, that there was nothing strange in the fact; that he had often seen the like, and that "our own" beds might probably furnish an example. "Just go and see." He did; and he brought us a handful of them, sure enough. Therefore, take no heed of the theory about the cold being hurtful to seeds of any kind, till you prove it yourself; but sow all your garden seeds at the times set forth in our calendars, and monthly summaries. No reform is needed there, at any rate. The old maxim, when I was a boy, was—"Sow your seeds whenever the land is dry, in the spring, rather than take your chance of a 'wet bed,' at the proper day or week;" and to this day I never heard or read of a better or more sensible and practical advice.

As a kind of guide, I may name the blue Nemophila, which, if it be sown this week, or next week, it will be in bloom, or be just coming into bloom, between the 20th and the 25th of May; and if you sow the seeds of Prince's Feather, and Love-lies-bleeding, to-morrow, in the open border, they will not vegetate before the 20th of April; or if you delay sowing them till the last day in March, they will be up just about that time. So that a month or six weeks make no difference with them in their spring sowing; and it is no romance to say, that there are hundreds of kinds of seeds like them in that respect.

Again, if you make the surface of a patch quite smooth, or place an inch of sifted mould over a border, you may sow *Lobelia gracilis* on it any day from the middle of February to the end of April, or some every week during the intervals; and *take care of them*, they will all come into leaf about the same time—the end of May, or very early in June: and the way to take care of them, is to put something over them to throw off the rain, as heavy rains might bury them too deep, and so prevent them growing.

These are samples of very tender seeds, as those of Heliotrope, very delicate seeds as the said Lobelias, and miffy seeds, to get on in pots or boxes, as are the Feathers, and Love-lies-bleeding; and ten degrees of frost will not hurt one of them, to my own personal knowledge.

I had another string to my bow, besides refuting the "baseless theory." If you recollect, we were to have a new band at the back of the ribbon border this season, to be made of "plant for plant" of the Love-lies-bleeding, and the Prince's Feather, but the seeds must not be sown in that row; and I speak of them thus early, that there may be no mistake about them. A threepenny or fourpenny packet of each would make a row of some hundred yards in length; therefore, that is one of the cheapest rows or bands in a fancy-coloured ribbon. There must be no heat or pots to raise the plants—they are miffy, and would give too much trouble that way; but they may be sown in the open ground up to the 10th of April, and be in time enough. Sow them then, and you may prick them out early in May, like so many Cabbage plants, or plant them at once into the row to remain from four inches to six inches apart. If your land is very strong and loamy, give them just one foot, plant from plant; or if you manure the row with very rotten dung, in light soil, give them the same room; but you may chance them on ordinary land without dung, by giving them only nine or ten inches between the plants. We tried the experiments last summer, and had them in different ways; and we came to the full conclusion, that there never was a better way of showing off a collection of choice bands, or stripes, ribbon-fashion, than with these common flowers, for a back row, or back ground. Some of the great French ladies, of whom I spoke as visitors at the Experimental, were, at first, loud in their disapproval of these plants in a flower garden at all. They called them their "fox's tail plants," and ran them down so much, that I actually thought I smelt a fox in the garden one afternoon; but in less than two months we were all of one mind about them, for one purpose at least, and that was, as a hedge along the front of evergreens on the grass.

To make such a hedge follow the exact curves, it will be necessary to put in stakes, at intervals, behind the plants, and so as not to be seen; then a string of rope yarn, to run from stake to stake; and the plants to be fastened to the string in the right positions. A trench nine inches wide, and a foot deep, would be necessary, in most situations, to be well dunged, as for a row of Broccoli or Cabbage. It might be made in the spring, and some kind of annual seed be sown first, to bloom from the end of May, till the Feathers and Love-lies-bleeding began to show. We put in quantities of the little trailing *Œnothera prostrata*, which lasted all the season, and made a very nice border. This contrivance is more calculated for small and middling-sized gardens; or, if it be attempted in large places, it ought to be in the vicinity of some of the flower-beds, to give it a dressed meaning; but if planted in groups of six or seven plants, equal numbers of each kind, and mixed, it would be admissible anywhere with *Foxgloves*. And, in a ribbon, it must be in the back row, with nothing taller than *Tom Thumbs* in front of it; because there is sufficient colour,

two shades of purple, from near the ground, to the height of three or four feet, according to the strength and richness of the soil.

Everyone is now employed with propagation, or with the preliminaries for quick work. Mr. Kidd, at the Stud House, Hampton Court, wrote to me the other day, about the easiest and the most complete way of striking *Verbenas*. His own words are—"The easiest, the quickest, and, above all, the most successful way of propagating Verbenas, Lobelias, and such like, is to fill flower-pot saucers with sand only, and to put in the cuttings as thick as they will stand, and place the saucers in a greenhouse, or a parlour, or any close room, where the heat is not lower than 50°; and I vouch for it, that nine hundred and ninety-nine out of a thousand will strike roots in a few days. Then, let them be put into pots, boxes, handlights, or frames, &c. Only try the experiment, and you will be surprised. What would our old friend, Mr. Ferguson, of Stowe, or Mr. Frost, of Dropmore, or even you yourself, in Shrubland Park, say to this *Ne Plus Ultra*, twenty years ago?" Why, each of us could say, Good luck to you, Mr. Kidd, and I shall "vouch" that your plan shall be done justice to in the Experimental Garden this very spring, as sure as my name is D. Beaton.

VINE BORDERS—PAST AND PRESENT.

When we cast our eyes back on the proceedings, as to Vines and their borders, from thirty to fifty years since, or more, we may find all confusion; nothing was conducted on principle—prescription over-ruled the whole affair. Vines were considered as gross feeders; borders were, therefore, made by forming deep excavations, and these were filled with the richest of soils, or composts, as they were termed, replete with gross manures. Many such borders, however, produced enormous bunches of Grapes, as well as monstrous berries, for a very few years, and then progressively declined: people wondering why this should be. On breaking up and renewing such borders, a dark adhesive mass might be found, almost similar to a dark-coloured putty. This was the once beautiful, mellow, and rich compost, which looked so tempting before being buried in these pits. As to fibres netted like basket-work, such as a good modern Vine border might be found to contain, sundry thick, dark, and charred-looking old roots were found, whose appearance at once denoted conditions quite inimical to the fruitfulness of the Vine.

Now, what with this state of things, and the general prevalence of the red spider in those days, was it to be wondered at that gardeners, as years rolled on, when taking to a new situation, generally made a point of breaking up their predecessor's Vine border, and forming a new one? But, in the majority of cases, the same game, or one very similar, was played over again; and thus things proceeded for many years.

About twenty or thirty years since, however, the intellectual advance of the age began to abhor mere prescription in gardening, as in many other things; and a spirit of inquiry began to prevail, as to what were the real habits and needs of the Vine. The question, however, was some time before it made much advance, and years passed away before the importance of paying a due regard to texture in the soil was thorougly recognised; as, also, the necessity for encouraging roots at a higher level, and surface roots, or rather fibres, in preference to deep, black, coarse roots, almost devoid of rootlets.

The question of ground warmth, also, soon invited attention; for, in former days, our gardeners, in the main, paid little heed to how soils received or parted with atmospheric heat. They had but one idea as to bottom heat, and that was, a bed of fermenting materials. But, on a due consideration of the habits of the Vine in its native climes, people began to open their eyes, and to perceive that the warmth of the soil, and the manner in which it received or parted with the solar rays, lay at the bottom of the whole affair. Here science stepped in to the aid of practice, and old rules soon began to be looked into with extreme suspicion. The late celebrated T. A. Knight, of Downton, was a host in himself, in these inquiries; for he was eminently qualified to sift the confusion of opinions that existed, not only on account of his originality of mind, but also because he was employed for years in testing his theories by practice.

As to soils or composts, then, it was at once urged by those who led the van in this inquiry, that the texture of the soil ought at all times to form a primary consideration, taking priority even of the manure question; for both the colour and texture of soils have great influence over their absorption of air heat, as also as to their retention of it. And, moreover, that fibres nestling a few inches below the surface of the border enjoyed, during that important period, the growing season, an advantage of many degrees of heat over those deep roots of the borders of the olden time. The spade, too, was soon voted an enemy to good Vine culture; and the cropping of Vine borders became very generally repudiated. In short, these maxims soon became pretty generally established amongst sensible and experienced men—that a border should be so made, as to preserve its texture and porosity for very many years; that it should be as shallow as possible, as compared with the old borders, yet not so shallow as to permit the volume of the roots to become parched and starved, by the extreme heat of summer; that every possible means should be taken to encourage fibres at a high level, as also to secure their preservation when there. These, I believe, are principles, not rules, which will, I venture to affirm, receive a hearty recognition by three-fourths of the best British gardeners of the day; and, if so, where shall we go in these times for better testimony.

I may now be permitted to reduce these principles to practice; and endeavour to throw a little light on the character of soils, and composts, in a comparative point of view.

Let me first advert to texture in soils. In order to make this familiar to unpractised minds, let me offer a comparison. Only let any one take some turf fresh from the pastures, or from the common side—the fresher the better—and chop it into pieces with the spade. Then let him stamp on it with his feet; and it will be found almost impossible to cement it thus into an adhesive mass. Let him then take what is called "compost" loam, and dung, and leaf soil, or other things, which have been turned and turned to sweeten, as some people have it. Let him stamp or tread on a mass of this in like manner, and it will become a close adhesive body. This may serve as an off-hand illustration. The one readily coheres by pressure, the other with great difficulty. That there is a great difference, must be obvious to all. Now, of course, this compost is richer as to manurial matters; but what signifies the amount of manurial treasure in a given compost, if such is, as it were, hermetically sealed? But it is not a mere manure question; the turfy matter in the pasture soil is such a net-work of organic matter, of a tough and fibrous character, that years must, of necessity, elapse before, under the most trying circumstances, it can become closed against the action of the air, or impede the free passage of water. And why? Simply because the organic matter is of so enduring a texture, and the fibres so numerous: they are, moreover, fresh, and not fermented like manures.

Talking of mixed composts, how often have we seen these rich olios turned in our younger days, in order to prevent them becoming too close, and sad—"to sweeten," our venerable predecessors said. Now, if these old composts become thus closed in the compost yard, in raised heaps, what may we expect from the same, buried a yard, or nearly so, beneath the surface of the ordinary soil?

I may now be permitted to inquire into the action of what is commonly termed "muck;" and by it I mean, whatever is commonly called "rotten dung," from any kind of animals; such, of course, containing, in general, littery matter in various stages of decomposition. And here we must remember that there are two distinct modes of applying organic manures to Vine borders: one, the mixing it in the body of the border; the other, as mere surface-dressing. Now, of course, it may be used both ways; but it is obvious that when a great amount of manure is mixed with the soil itself, there will be less occasion to make a fuss about surface-dressing; otherwise there will be a most profligate waste of manures. And what is the result of a too free use of dung in the compost? Why, that for two or three years, or, indeed, whilst the turfy, or soily matter, by its preservation of texture, permits water freely to pass, and air as freely to enter, all things appear to go on well; the Vines are impelled to the production of what is called splendid wood; and in due time their "keeper," who supplied the source of their pride, wins the prize at the exhibition, perhaps.

But wait a few years more, and, in the majority of cases, the Vines fall away, and people begin to talk of raising their roots, of trying to introduce more drainage; and then, in many cases I have known since the days of my boyhood, there arises a demand for turfy loams, and such like applications. It may be easily understood how rotten manures become, in due time, closed to the free passage of water, and by consequence to the admission of air Let any one fill a pot with finely-chopped turf, and another with old manure and vegetable mould, mixed; put a plant in each, or not, and water regularly for a few weeks, to imitate the action of rains, &c., as far as possible; and observe at the end of two or three months which receives and parts with moisture most freely. Manurial matters, in course of time, and buried below the surface, become inert in a much greater degree than fibrous soils: and surely this furnishes a reason for relying much on surface manuring, applied annually, be it ever so little; especially if it be admitted that it is our duty to encourage by all possible means surface fibres.

I need say little more about manures and their bearing on the constitution of Vine borders. I may, in conclusion, advert to some other matters which are not unfrequently mixed with the soils of Vine borders. The two most material things are lime or mortar rubbish, and bone manure. All good gardeners are agreed as to the Vine liking the *débris* of old buildings, lime rubbish, plaster, &c. The fact is well established—it is at once a nourisher and a preserver for many years, of the porosity of the soil. As to bone manure, few good gardeners would despise it. Whether it be the amount of phosphate it contains, or other high principles, or even its texture, it is well known that Vines delight in a proportion in the soil. Now, we can obtain both boiled and raw bones; the latter, of course, endure much longer; the former give out their qualities with more facility. I am an advocate for boiled bones in this case; being of opinion that it is in the phosphates chiefly, that bones so well suit the Vine. R. Errington.

MEMORANDA FOR FEBRUARY.

Window Gardening.—The sun now gains so much more power every day, that extra attention will be required, in order that the plants standing in the windows may be in a position to receive the full advantage of it. One of the most important of these attentions is thorough cleanliness, not only in the surroundings, but on the plant itself; seeing that no incrustation of dust on stem or leaves prevents the beneficial action of the sunbeams. For this purpose, gently washing the whole with a soft sponge will be of great importance to their future well-being. Old readers of this work will well know how important to growing plants is every ray of sunshine at this period. The mass of the lovers of flowers have as yet, however, no idea of this simple fact, though otherwise possessing great general intelligence. Perhaps this is not greatly to be wondered at; for, very likely, gardeners would just be as ignorant of many things connected with the businesses and professions of these good people, that with them have come to be reckoned among the very simplicities of knowledge. Hence a tyro, just feeling his way, and getting over little difficulties by degrees, is frequently a better teacher to those just a little behind himself, than a person who has got nearly to the summit of the knowledge that can be realised on a certain point; because he is very apt to overlook the first steps in his progress—the steps that are everything to beginners. There might oftener be more sympathy between the teacher and the learner, were it thoroughly kept in mind by the former that nothing is simple until it is thoroughly known. The treatment proper to a window plant is a far more abstruse subject to some, than the solving of a difficult mathematical problem would be to others.

Very advanced readers of our periodical literature should keep this in mind. When glancing, with more than railroad pace, over its columns, they throw it aside with the impatient exclamation, "Nothing in it. Why do I pay for this, if I get nothing new or striking?" There was a time in their history when such matters would have been of importance; and their importance is felt by the great proportion of readers now. True benevolence would say, "Well, I cannot pick up much fresh here; but the day was when I could have done so. I am sure it must do good to many. There may be a little dearth of more advanced ideas; but if I can do anything in this direction, why should not such old stagers as myself, and others I could name, contribute our share of information in this direction, and thus provide food for all. I am sure if there is anything in gratitude for favours received, this is what I and others ought to do, instead of grumbling at Mr. F. for taking up room in telling these favourite window gardeners of his to give all the light possible to their plants; which one would suppose any one would do who looked on vegetation out of doors rejoicing in the sunshine."

Yes! but to admire the beauties of nature is one thing: to glean the lessons of wisdom and instruction they convey is quite another thing. We see and admire, and then act differently. It is only when we fully comprehend the matter that we come to wonder that ever we could have been so inconsistent. We find out what simpletons we were; and hardly can find the sternness to say a word against simplicities afterwards.

In the neighbourhood of a town that shall be nameless—a town that has had many opportunities of becoming acquainted with the principles of vegetation, and had, I understand, a first-class lecture on the subject from a young, talented medical student only a few weeks ago—in the neighbourhood of that town

now lives a large-hearted philanthropic man (doubtless there are many more), constantly employed doing good; and yet, amid his never-ceasing labours, finding time for the management of a small garden and a small greenhouse abutting on the end of his house; the frost excluded by two pipes from a boiler at the back of the parlour fire-place. Some people expostulated with him for doing so much, as he can only be a three-years' tenant; but then he tells them the pleasure he has in such work—hopes his successor will have similar tastes; but, if not, he cannot help it: there being no reason why he should not make the most of the present: and then the fact of his doing so will, instead of causing, greatly remove the regrets of leaving all behind him. And he does make the most of his circumstances: he manages to get vegetables and flowers before the most of his neighbours. I believe he manages Rhubarb and Sea-kale chiefly in his kitchen. Potatoes forwarded there, and then removed to the greenhouse, will soon be fit to gather. Bulbs of all kinds get an early forcing by being placed near the kitchen fire at night, and farther off during the day, and then are bloomed successfully in the greenhouse and windows. And for what is all this labour and care? To please himself? Aye, to be sure; but chiefly to realise that pleasure by pleasing others—by tempting the palate of the invalid with an unwonted delicacy—by brightening the eye of the afflicted with the sight, and the possession of early flowers; besides distributing scores of flowering pots amid his friends and acquaintances. "Talk of trouble," I once heard him say; "why to me it is no trouble, but a perfect luxury to feel I can be useful, and the means of procuring and imparting happiness to others." Knowing all this, I could not but regret that, lately, on entering some of the tradesmen's houses in that town, and recognising at a glance some of our good friend's productions—and these valued, too, not merely for their beauty, but likewise for the associations of heartfelt esteem cherished towards the donor—that I found these plants, in hardly a single instance, were placed in the best position; some standing on tables in the middle of the room, some on side tables at the farthest side of the room from the window, some on work-tables near the fire-place, and some getting plenty of heat on the chimney-piece; whilst the day being fine and bright, the slightest recollection—the simple knowledge that growing plants can only grow healthily in full exposure to light—would have brought all these miniature Roses, Chinese Primroses, Violets, Hyacinths, Narcissuses, Tulips, &c., to the window-sill.

In a cold frosty night, the table in the room would be the best place. In a cold frosty morning, the plants should remain there until the temperature at the window reached fully as high as 40°; but full health can only be realised in growing plants when these are enjoying every possible ray of sunshine. Plants in a partially dormant state, as old stumps of scarlet Geraniums, hardly begun to break their buds, will not require an equal amount of light; but neither should they be exposed to much heat above keeping them free from frost. They will bloom very well in summer if the stems are sound; though the buds do not break freely until the end of March. Anything like forcing them by heat now will just necessitate more light and space for keeping them healthy, and robust hereafter. Where room is scarce, the Fuchsias kept in lofts, or cellars, may also be kept cool (not frosted), and dry until the middle of March. If started by the heat of the kitchen now, as soon as the buds break, they will require the light of the window; and water must be given according as the plant grows: very little being required until the fresh shoots are growing away freely, and thus increasing the perspiring surface.

There cannot, then, be too much cleanliness, or too much direct light for healthy-growing plants at this season, when looked at from a general-rule point of view; but an exception must be made as respects direct sunlight, when a very bright day succeeds a number of days of very dull cloudy weather. In such a case the extreme comes so suddenly, that the plant is unprepared to meet it. In other words, perspiration of moisture, &c., takes place faster from the foliage than the roots, from their unused-to-absorbing-rapidly state, can at once supply, and the leaves of free-growing Geraniums and Chinese Primulas droop and fall. The general remedy is to pour water into the pot, whether it be dry, or quite moist enough, and then it seems a mystery that the leaves will still droop. If the pot were dry, of course watering was all right. If the pot were a small one, say three or four inches for a neat Primula, and were well drained besides, then an extra watering, even when the plant did not require it, would do but comparative little harm. But if the pot were at all large, and moist enough already, then the extra watering, when not needed, and more especially if dull weather succeeded, would be apt to make the whole plant diseased and gouty; the roots being surrounded with much more moisture than they were able to act on by absorption. If, by lifting the pot, and judging from its weight—if, by striking the sides sharply with your knuckles, and from the dull, instead of the sharp, ring emitted, you conclude the soil is damp enough—then, instead of watering, just inure the plant gradually to the change by moving it further from the window; shading for a few hours with a muslin blind; and sprinkle the foliage with water, to neutralise the rapidity of the perspiring process. Many a fine plant would often thus be saved, that is rendered sickly, by a deluge from the water-pot, when nothing of the kind was needed.

Plants in comparative rest, as Fuchsias, Salvias, Lobelias, and scarlet Geraniums, are not at all particular as to the temperature of the water used; but all plants growing in living rooms should always have water quite as high as the temperature of the room. It should never be below 55°; and if as warm, or nearly so, as new milk, it will do little harm. Chinese Primroses, Cyclamens, Cinerarias, Hyacinths, Tulips, China Roses, &c., showing, and in bloom, may be watered with weak liquid manure and clear water, alternately, with advantage. In watering, give as much as will moisten every fibre, and only repeat the dose when the soil becomes dry, and before the leaves show much sign of distress, and air be duly given when possible. We may expect that if attention be paid to these minutiæ, this season of the year will pass without much disappointment, and more especially if a moistening of foliage be frequently given to counteract the dryness from the room fires.

In the greenhouse, the plants mentioned above, and also Camellias, Cytisus, and Coronilla, may receive a little manure water with advantage. Much care will be requisite in watering hair-rooted plants in heath soil to see if they are thoroughly watered to the bottom and through the ball; and also that the moisture is not poured on so as to keep the collar of the plant long damp. Climbers beginning to bud will also now require attention; and climbers for trellises, such as *Tropæolum tricolorum*, will want daily attention in training. Azaleas, Jasmines, and even hardy shrubs, as well as bulbs, may be forced into bloom as there is opportunity. And where much is to be done in the flower garden, no time should be lost in getting up hotbeds for propagating all kinds of bedding plants; forwarding Achimenes and Gesneras; sowing Cock's-combs and Balsams, and many flower-seeds, intended for out-door or in-door decorations.

Of course, where there are early vineries, peacheries, or a plant stove, much of that work may be forwarded, independently of hotbeds, though they are always desirable adjuncts in a garden when well managed and made the most of; and many things thrive better in them than they can be made to do in any other place heated merely by flue or hot water. R. Fish.

CULTURE OF ROSES IN POTS.

(*Continued from page* 278.)

If the management of the plants, described in my former paper, has been duly attended to, they will have filled the pots with roots, and their heads will be furnished with moderately strong shoots. As soon as the leaves have fallen, they should be repotted into blooming pots. Strong growers may be put into pots twelve, or even fourteen inches across. Weak growers, of course, will not require such large pots; from eight to ten inches diameter will be sufficient. As there will be considerable space between the ball of soil attached to each plant, and the sides of the pots, the compost may be almost as rough as possible; I always choose fresh turf every time of potting, and cowdung in flakes, partially dried. Then, the new pots being well drained in proportion to their size, and upon that, a layer of fresh turf, the ball may be placed in the centre of the pot, and the compost placed around it; taking care that the cowdung is mixed with every part of the space amongst the pieces of turf, and the whole pressed down as hard as possible. *Firm potting is essential to success in Rose culture in pots.* Remember always to add about one-fourth of partially decomposed leaf mould to the more tender kinds, such as the *China*, and *Tea-scented* varieties. And, here let me remark, that it may sometimes happen, that the cultivator may have some Roses in pots in his possession. He may make use of these also; but, they must have a year's culture on this system before blooming them either for forcing or exhibition. Such plants are generally long-legged, ill furnished with feeding shoots, and badly rooted. These, to be worth anything, must have a thorough renovation in roots, in branches, and in the shape of the head. It is possible to obtain such a favourable result; but I really think, unless the cultivator cannot afford it, that the best plan is to plant such unsightly specimens out in the open border at once, and start afresh.

Many of the strong-growing Hybrid *China*, *Bourbon*, and *Noisette* Roses, serve as climbers, and Pillar Roses. These look extremely beautiful in pots trained in the globe fashion; and others may be trained so as to form a perfect pyramid (which form is, I think, the most beautiful), and also in the ordinary bush fashion. Whichever style is adopted, means must be used to bring the plants into that shape; and should be followed out for several years, until the plants are too old to be continued in pots.

Training as a globe.—This globe may be formed of wire, which, if painted annually, will last many years; but, a very useful globe may be formed with flexible sticks, and a wire ring to each. For a twelve-inch pot, six sticks will be sufficient. Thrust them in close to the pot at equal distances; place the hoop, which must be larger in diameter than the pot, about half-way up the sticks; tie each stick to it, and then draw the whole of them together at the top. The Rose shoots should then be tied well down to the pot round the outside of the stakes. When these are in flower, they show off each Rose to great advantage.

The pyramid.—To form a Rose into this shape requires some skill. There should be a central shoot or stem, and from it the branches should spring outwards nearly horizontally, the longest, of course, close to the pot, and gradually shortening-in to the apex. Choose for this form plants that are well furnished with branches, and a main stem in the centre. Tie this to a strong stake, and then place a number of smaller sticks round the edge of the pot; draw them together at the top to the central stake; and to them, tie the branches, shortening them in upwards. When the tree is fully formed, these outer sticks may be removed.

The ordinary bush-fashion.—This requires no particular care beyond keeping, by means of short sticks, the branches at equal distances; the central shoots may be the highest, so that the flowers on them may be seen. If the proper summer pruning—that is, thinning the shoots, and shortening-in the very rampant ones—has been duly attended to, very little pruning will be necessary at this second potting season. All that is required is to shorten-in the shoots about one-third of their length.

As soon as this potting and training are finished, the plants should be placed in a deep pit, or deep frame, on coal ashes. This shelter is now necessary, from heavy rain and snow, for them all; but no covering will be necessary, except for the more tender sorts. These I would recommend, if possible, to be kept in a separate frame, so that they can be covered in severe frost. When early Roses are desired, the requisite number that are most forward should be taken into a warm greenhouse, and brought gently onward. Remember, they are hardy shrubs; and, therefore, they do not require a high temperature to bring them forward. The old proverb applies to Roses especially, viz., "Too much haste, the less speed."

Those that are intended for exhibition should have plenty of air on all favourable occasions; and as soon as they begin to grow, let them have a top-dressing of well-decomposed cowdung, leaving plenty of space for water. As they advance in growth, and the sun becomes powerful, shade them from the mid-day beams. When gentle spring rains are falling, pull off the glass entirely: it will be of great service to them.

The green fly will now make its appearance, and must be kept under by frequent fumigations with tobacco smoke. When the leaves and buds are in a forward state, the plants ought to have liquid manure once a week.

By these attentions, perseveringly followed, the Roses will, in May and June, be in full bloom; and will abundantly reward the cultivator for his extra trouble and care.

Six Roses suitable for Training in a Globe Manner.

Gloire de Mosseuses, pale rose; very large; M.
Rouge de Luxembourg, deep crimson; M.
Blairii, bright rose colour; very fragrant; H.C.
Chénédole, vivid crimson; very large; H.C.
Baronne Prévost, clear rose; immensely large; H.P.
Jules Margottin, bright carmine; large double; H.P.

Twelve Roses suitable to Train in the Pyramidal Form.

Marie de Blois, bright rose; very mossy; M.
La Ville de Londres, deep rose; very large; H.PRO.
Général Jacqueminot, rich crimson; superb; H.C.
Coup d'Hebe, bright flesh pink; globular; H.B.
Great Western, crimson and purple; very large; H.B.
Las Casas, rose; immensely large, very good; H.B.
President Mole, bright purplish rose; large and good; H.B.
Jacques Lafitte, bright rose; large and showy; H.P.
Louise Péronnay, bright pink; large and full; H.P.
Pius the Ninth, bright rose crimson; good; H.P.

Acidalie, blush white; large and globular; B.
Souvenir de Malmaison, flesh colour; large and good, B.

TWENTY-FOUR ROSES SUITABLE TO GROW IN THE ORDINARY BUSH STYLE.

From these the varieties for forcing may be selected.
Common Moss, well-known; M.
Unique de Provence, pure white; in clusters; M.
Princesse de Lamballa, the best white known; A.
Beauty of Billiari, scarlet; fine, free bloomer; H.C.
Fulgens, bright crimson; showy; H.C.
Madame Plantier, pure white; in large cluster; H.C.
Paul Perras, shaded rose; very beautiful; H.B.
Persian Yellow, the best yellow rose.
Arthur de Sansalles, crimson purple; new and good; H.P.
Duchess of Norfolk, vivid crimson; extra fine; H.P.
Géant des Battailles, a well-known fine rose; H.P.
Général Jacqueminot, brilliant crim.; fine form; H.P.
Mrs. Elliott, bright rose; full and distinct; H.P.
Bouquet de Flore, light carmine; old, but good; B.
La Quintinie, deep velvety crimson purple; decidedly good; B.
Fabvier, bright carmine; free bloomer; C.
Marjolin, deep crimson; large and fine; C.
Mrs. Bosanquet, delicate flesh; very charming; C.
Adam, rose, salmon centre; large and superb; T.
Devoniensis, creamy white; robust; T.
Eliza Sauvage, pale yellow, buff centre; fine; T.
Gloire de Dijon, fawn, shaded with salmon; extra; T.
Viscomtesse des Cases, bright orange yellow; fine; T.
Triomphe des Rennes, yellow canary; fine form; N.

ABBREVIATIONS.—*M.* Moss. *H.Pro.* Hybrid Provence. *A.* Alba. *H.C.* Hybrid China. *H.B.* Hybrid Bourbon. *H.P.* Hybrid Perpetual. *B.* Bourbon. *C.* China. *T.* Tea-scented. *N.* Noisette.

T. APPLEBY.

POTATO PLANTING.

I SHALL be glad just to say a few words, in reply to Mr. "T. WINDSOR's" remarks, in No. 487, page 265. He appears to have read me wrongly, in the few remarks I had made in a previous number, on Potato planting.

Now, when I stated that there were three ways of planting Potatoes here, I merely stated what was the fact, and what was the result of that fact, viz., that planting with the hoe or the dibble were both very bad plans, and had proved a failure. Mr. "T. W." may say, "I know all about that; therefore it is waste of time and valuable space." But I was alluding to field culture generally. And the men who annually plant acres of Potatoes here, do *not* think so; and, consequently, they are the losers of a very large per centage, individually; and the public are losers, more or less, collectively.

I think it of very little service to lay down plans or rules, that can only be carried out on a very limited scale, and under most favourable circumstances. Therefore, I said that I considered trenching them in, and digging the whole of the ground at the same time, the best plan, be the ground in whatever state it may; because the operator can work the ground as lightly as the soil will admit of; and he leaves it light, until the crop of weeds (*i.e.* if he is unfortunate enough to have such an abundance) require checking, or the Potatoes require the hoe amongst them. Mr. "W." says he has not seen a dibble for years (neither have I but in this neighbourhood), and *never* approved of its use. I do not say I never used it, because years ago it mattered but little how Potatoes were planted; and on light soils, perhaps, it was as good a plan as any; but now experience has taught us, that both hoe and dibble should be laid on the shelf, so far as planting Potatoes is concerned.

Now, had I advocated either of the worn-out plans, our friend might very justly have found fault with me, because I must have trodden the ground after planting; and our friend may have read, on a previous occasion, that treading the ground should be avoided.

"T. W." says, "I pick my ground out in the autumn that is to be potatoed, and throw it up into *two-feet* ridges." Now, if that practice has been carried out in the past autumn, and "T. W." has taken Mr. Beaton's advice, with regard to potting mould, I expect he must have a respectable heap by him, if he is so favoured with weeds as he intimates. Now, I do not ridge up *any* ground; but after taking off the crop, I dig it as deep as I can thrust the spade down, and in that state it remains through the winter: and I am of opinion, in that state, is benefited as much as when in a *two-feet* ridge.

Now, for the planting. Our friend tells us, that after the ground has lain in ridge all the winter—which, I should think, between the ridges must, from snow and rain, be pretty well sodden—he lays the sets in that sodden part, and must tread the ground to do so. Then, he covers the sets, and treads the ground to do so a second time; and, finally, he levels down the ridge, and treads the ground a third time. Yet, no doubt, makes it look very nice when it is done. Now, if the soil is at all stiff, as our friend intimates it is, what effect would all the above treading have upon such a soil in the generality of seasons in the month of March, with hail, and snow, and rain, as well as sun, and wind, and frost?

Our friend says, "What a pleasant thing it is to work amongst them, with the mould crumbling under your feet, to what it would be if it were so much 'hardbake.'" Now, here I fully agree with Mr. "W.," there is the immediate pleasure, and a more substantial pleasure in prospective; but then I would ask, which is the most likely quarter to find the "hardbake," or the substantial pleasure; on the one that has been trodden three times in planting, or on the one that has not been trodden at all?

I hope the above remarks will be received in the same spirit as they are written—"Better rub than rust."—THE DOCTOR'S BOY.

HARDY PLANTS FLOWERING IN JANUARY AT KEW.

RANUNCULACEÆ.—Helleborus niger, H. fœtidus, H. atrorubens, H. viridis, H. laxus, and H. cupreus.

COMPOSITÆ.—Hologymne glabrata, Burrielia gracilis, and Hymenoxis Californica.

JASMINACEÆ.—Jasminum nudiflorum.

LEGUMINOSÆ.—Coronilla emerus.

CALYCANTHACEÆ.—Chimonanthus fragrans, and C. fragrans grandiflora.

PRIMULACEÆ.—Primula vulgaris, P. elatior, and P. polyantha.

AMARYLLIDACEÆ.—Galanthus nivalis.

SWARMING AND REMOVING THE OLD PARENT STOCK.

IN reply to your correspondent, "THE COUNTRY CURATE," (*redivivus* I hope), I tried, last May, the experiment of placing a swarm in the place of the parent stock. The experiment answered; but not so well as I have known it—probably for the following reason:—In my first attempt I removed the parent stock to a greater distance than in my last case, having more room at that time; since the first trial, I have changed my residence, and at present my garden is a very small one; and in my last trial the parent stock was moved *only two yards*.

The result of my experiments is as follows:—That weak hives should not be dealt with in this manner, as an old weak stock takes a long time to recover *loss of numbers* sustained by it: but, on the contrary, a very populous hive, which throws off a fine swarm when moved, is prevented effectually from weakening itself by too much swarming, and recovers its numbers in time to fill a hive with honey.

I think I may venture to say, that whenever the experiment is tried, the farther the parent stock is moved from its old place the better.—H. W. NEWMAN, *Orde Villa, Cheltenham.*

A NOTICE OF A MOULD ATTACKING THE COFFEE PLANTATIONS IN CEYLON.

By the Rev. M. J. Berkeley, King's Cliffe, Wansford.

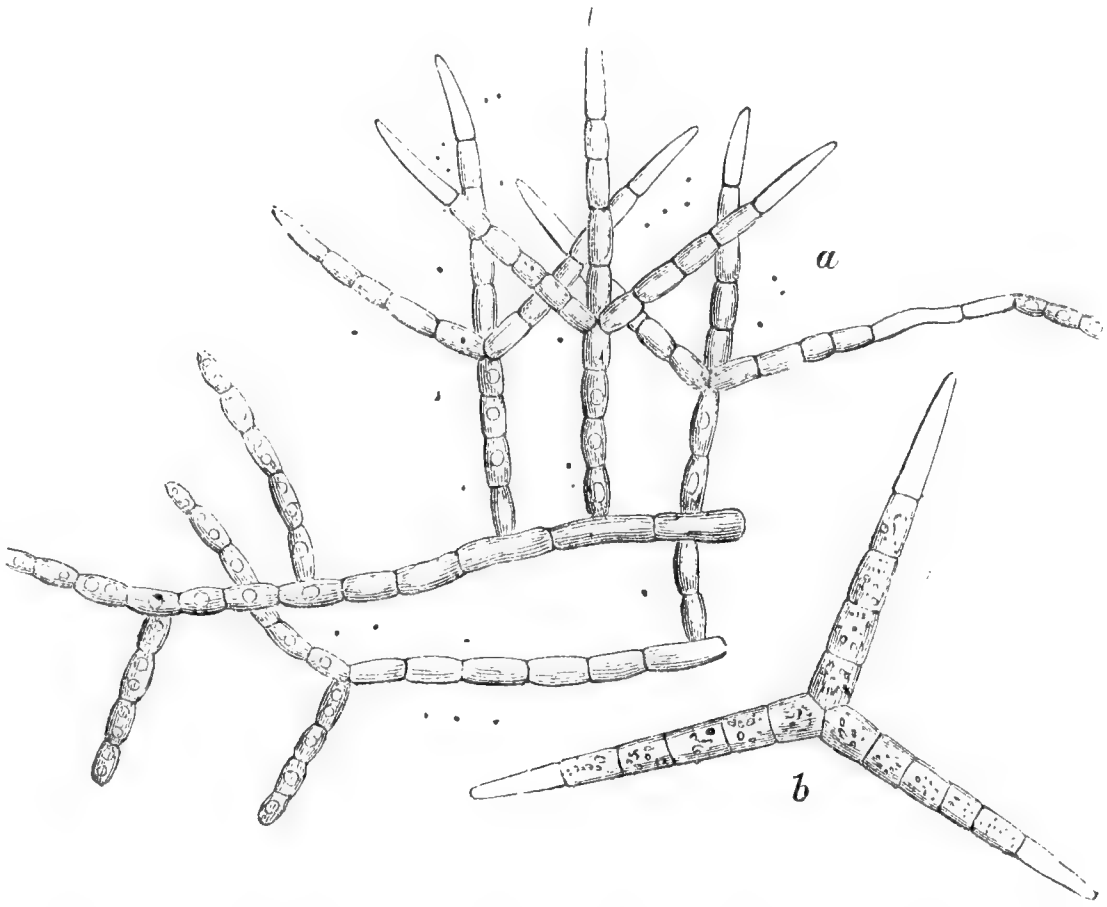
We are daily hearing of fresh instances of the extensive prevalence of blight and mildew, in various forms, in our fields and gardens at home; but it is curious that of late years intelligence has arrived of similar visitations from countries of quite a different temperature. A few days since, a letter dated Peradenia, July 9th, of the present year, was received from Mr. Gardner, of Ceylon, to the following effect: "I write in great haste merely to ask you to be kind enough to let me know at your earliest convenience, what species of fungus the inclosed is. It is at present overrunning the greater part of the Coffee estates in Ceylon. It is caused by a species of 'scale' or 'bug,' which first began to appear about five years ago; and it is not till the 'bug' has been on the trees for upwards of a year that the fungus makes its appearance."

The leaves are completely covered with a black sooty wash, and the trees must be in a sad plight; for not only are they smothered with the fungus, but they are weighed down with masses of gelatinous lichen belonging to the genus Collema, or some closely allied group, which, though merely forming small radiated black specks when dry, on the application of moisture instantly swells and increases immensely in volume.

Mr. Gardner's observation, that the fungus is always preceded by an insect, is exactly in accordance with what often takes place in similar affections here. Nothing is more common than for Orange trees, and other smooth-leaved exotics to suffer from some form of Fumago, which is in every instance, I believe, preceded by a coccus, except possibly where there has been an exusion of honey-dew, and it appears that the visitation which has been so serious in the Orange plantations of the Azores and Madeira has exhibited the same connection between the plant and the insect.

There is great reason to believe that many of these plagues are, in the first instance, imported, and we know that some vegetable productions of foreign extraction and some insects also become peculiarly luxuriant and abundant in their new quarters—a fact which will account, in some instances, for the sudden rise of visitations which were before unknown. Dr. Morren has stated his conviction that *Botrytis infestans*, of which so much has been heard of late years, is an importation, and the notion is at least worthy of consideration. There is a curious prejudice in the West Indies against all garden plants, and in the sugar plantations, if the proprietor leaves, the first step is always to destroy everything in the neighbouring garden, a custom which, though arising evidently from exaggerated fears, may not be altogether void of foundation in experience.

Mr. Gardner supposed on a mere cursory inspection, that the fungus, as is the case in some other forms of Fumago, belonged to the genus Antennaria; but this is not the case, the parasite really belonging to Corda's curious genus Triposporium, a few threads of which have been found in similar cases of blight in England, but merely scattered amongst other moulds, so as not to enable me to ascertain whether the species is the same with that from Ceylon, which is, however, quite distinct from the original species of Corda, which has been found by Mr. Broome, on Oak chips near Bristol, and of which Corda has given a splendid figure in his *Pracht-Flora*. I subjoin a sketch and specific characters of Mr. Gardner's species. —(*Horticultural Society's Journal.*)



Triposporium Gardneri, n. s.; mycelium densely interwoven, fertile threads short, spores elongated.

The figure represents at *a* a portion magnified, in which it will be seen that the spores are sometimes elongated at the apex, and proliferous; and at *b* one of the triple spores highly magnified.

THE QUALITIES CONSTITUTING A GOOD POTATO.

Many varieties of Potatoes, like new seedling Grapes, are being constantly brought before the public. No sooner does one variety get advertised and sold, than another, stated to possess far superior qualities, pops into the market. All seem anxious alike for these fine new varieties, even at the expense of discarding some well-known old favourite. Just so with the Potato—fresh-named, if not new varieties, are advertised weekly. We have no knowledge where they came from, or who was the fortunate raiser of these said varieties; in fact, we have no guarantee at all as to whether they are really genuine: and, should we be so unfortunate as to buy the same variety of Potato, under two or three different names, to whom are we to apply for redress? Of course, we could not apply to the salesman, for he would tell us, that he bought them for so-and-so; but who the right raisers of these varieties are, it would puzzle a conjuror to find out.

I must admit that it is not the case with new varieties of Grapes; for we generally have the whole history given, with the raiser's name and address, from what variety raised, where and when exhibited, with its good qualities, &c.

This is precisely what we wish those who advertised new or fresh varieties of Potatoes to do. Such a method would show good faith, and protect us from buying so many duplicates. At present, it frequently happens when a person has a favourite variety of Potato, and does not know its name, that he christens it himself, and gives it away to his friends with this new name attached to it. Again, if he should tell his friends that he does not know the name, it is more than likely that they will call it by the giver's name, such as "Mr. So-and-So's *Kidney*."

A miller in this part of the country had some fine *Kidney* Potatoes, of which he did not know the name; and when he distributed them, they were christened *Miller's Kidney;* and this variety is a great favourite round our neighbourhood, but is no other than the old *Midsummer Kidney*. So, the *Champion Kidney* is identical with the *Albion*. Yet, both have different raiser's names.

There are, also, many varieties now in cultivation, that are known only by their names: their origin was never made public. Many new varieties that have found their way into the market are entirely worthless; and many old varieties of really good value have either been discarded for new ones, or have been entirely lost through bad management or neglect. It is a well-known fact, that some varieties that are of first-rate quality when grown in some parts of the country, are entirely worthless when grown in other parts; and, to this fact, we should all pay great attention. For instance, how

very different are some of the Potatoes grown in Lancashire, to what they are in this neighbourhood. In the former, they boil like a ball of flour; in the latter they are like a ball of wax; but, I think it must be admitted, that more Potatoes are condemned through bad cooking, than from any other cause. The more waxy the Potato, the more salt will be required for the water to boil them in.

In raising new varieties, the following points are indispensable; and, none but those that have such merits described below, should be submitted for sale to the public: for it is far more important to the public at large, to have a first-class Potato, than a first-class Grape offered to them. Potatoes are food for millions, while the Grape is only a luxury for the rich.

A good Potato should be in size, moderate; shape, regular, that is, free from deep eyes, warts, and crooks; skin, roughish; when boiled, entireness, dryness, and firmness; agreeable taste; earliness; productiveness; short haulm; freedom from disease and long keeping.

A large Potato is frequently hollow, and cannot be conveniently cooked, and is also liable to be badly boiled. A warty or deep-eyed one suffers waste in peeling; a smooth-skinned one is generally more waxy than a rough one; a bursting one, in boiling water, suffers loss; a firm and dry one, is mealy; an early-ripening one is less liable to be attacked by disease; and productiveness is requisite to make the crops profitable; short-haulmed varieties can be planted closer together than long-haulmed; freedom from disease is the great point we wish to acquire, and can certainly only be attained by peculiar methods of cultivation; lastly, a good-keeping variety that retains its flavour, is indispensable, for the sake of affording its supplies up to the period of Midsummer.

The history of those varieties, which are generally favourites now in cultivation, would, I am sure, be highly appreciated by your readers; and I trust, that your correspondents that are in possession of the history of any well-known variety, will kindly communicate it through these valuable columns. Let us reason together, and see if we cannot come to some good understanding in this one neglected point. I promise to lend all the aid in my power, having grown over one hundred so-called varieties within the last four years.—Edward Bennett, *Gardener to Sir O. P. Wakemen, Bart., Perdiswell Hall, Worcester.*

Orange Wine.—The best time for making this is from the end of February to the middle of March. To every gallon of water, use one dozen of oranges (the best Seville), and three pounds of good loaf sugar. Pare half the oranges very thin. Put the sugar in the cask, squeeze the oranges, and put the juice into the cask; wash the pulp, and strain as long as any juice remains, and add it to the rest. Pour fresh hot water on the rinds every day, and add the liquor to the juice in the cask till it is full. Stir it daily until the sugar is dissolved. Add to a 4½-gallon cask a quart of brandy, and a little isinglass, and bung it up for a year. Betts' patent brandy answers perfectly well. Bottle at the end of the year.—Z.

NEW AND RARE PLANTS.

Dasylirium acrotrichum (*Bearded-leaved Dasylirium*).

This belongs to the Natural Order of Asparagineæ. It has been also included in the genera *Yucca*, and *Roulinia*. The name *Dasylirium*, means a succulent Lily. It was sent to Kew by Mr. Repton, of Real del Monte, and is believed to be a native of Mexico.—(*Botanical Magazine, t.* 5030.)

Æschynanthus tricolor (*Three-coloured Æschynanthus*).

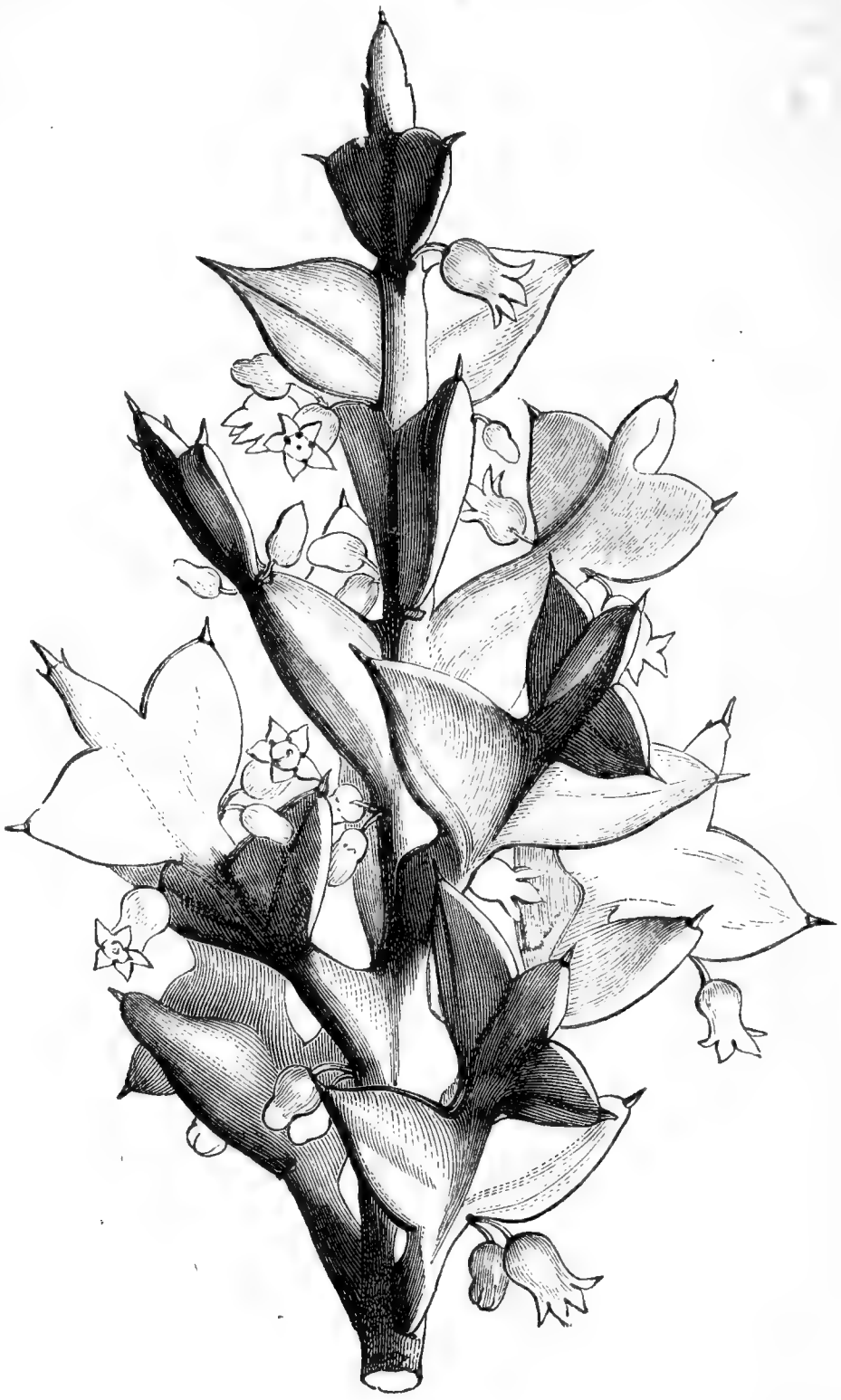
A truly beautiful plant. Introduced from Borneo, by Mr. Low, of the Clapton Nursery. "Well suited to ornament basket work suspended from the roof of a moist stove. The branches droop considerably, and the flower-stalks, though the umbels are pendent, have an upward curvature, which adds considerably to the gracefulness of the species." The flowers are ringent, and coloured scarlet, yellow, and black.—(*Ibid. t.* 5031.)

Cattleya luteola (*Citron-coloured Cattleya*).

It has also been called *C. modesta, Meyeri,* and *flavida.* It flowered with Messrs. Rollison, of the Tooting Nurseries, in November, 1857. It is a native of Brazil.—(*Ibid. t.* 5032.)

Colletia cruciata (*Cross-spined Colletia*).

It has also been called *C. Bictoniensis*, owing to some mistake in considering that it was a seedling malformation of



C. spinosa. It is a native of South America. Dr. Gillies found it near Maldonado, on the shores of Banda Oriental.—(*Ibid. t.* 5033.)

Gaultheria discolor (*Two-coloured Gaultheria*).

A native of the temperate part of the Bhotan Himalaya. Discovered by Mr. Booth; reared by Mr. Nuttall, of Nutgrove, near Rainhill, Lancashire. Flowers white and crimson, and under-side of leaves silvery. "A very elegant little species."—*Ibid. t.* 5034.)

Pilumna fragrans (*Fragrant Pilumna*).

Called also *Trichopilia albida.* "For this charming and deliciously-scented Orchid, the Royal Gardens are indebted to Lady Dorothy Nevill; whose good taste, and love of horticulture, combined with those of Mr. Nevill, have made Dangstein already the site of one of the best private gardens in England." The plant is said to be a native of Popayan, and found by Mr. Hartweg. It flowered in December, 1857. (*Ibid, t.* 5035.)

Flowers Blooming in January.—Near Bradford, in Wiltshire, there were blooming—Jasminum nudiflorum; Snowdrops, very fine; Pyrus Japonica, scarlet; Hepatica, double pink; Crocus, yellow; and Anemones.

CROPPING A SOUTH BORDER.

Early vegetables, like early fruits, are at all times acceptable. The cottager exhibits his first batch of early Potatoes with honest pride, to a more wealthy neighbour, when he thinks he beats him in that article. A good Cabbage is, likewise, a welcome accompaniment to the ordinary bill of fare. And I have known an amateur, only an ordinary carpenter, beat all the exhibiting gardeners, in forced Strawberries, at a respectable country show. A desire to excel will, in a general way, prompt the assiduous cultivator how to accomplish it. Most of our most eminent growers of different articles, have been amateurs; and, in fact, I may say, that most eminent men in all capacities have attained their position by that unwearied industry, without which no one can thrive. Now, the subject of my present chapter, though not requiring the close study and continued application of an abstract science, yet is deserving of some attention, as it relates to that most important of all gardening matters—"good management;" and the due appropriation of whatever space there may be in a garden, for the growth of early vegetables, is one in which all parties are interested, and, consequently, forms a good subject for an article in The Cottage Gardener.

In most gardens there is a favoured side or corner, warmer than the rest; most generally it is the north side, and sheltered from the cold winds in that quarter. This portion of the garden is usually looked upon as being exceedingly useful; early vegetables being reared on it; and what fruits may be growing there, come in sooner than the same do elsewhere. This border ought, therefore, to be carefully allotted, so as to produce the greatest possible amount of such early things as are most wanted by the family. Some things everyone wants, as, for instance, Potatoes, Peas, Cauliflowers, and Radishes; and, in fact, most common and useful things are relished by every one. Now, in order to carry out the due distribution of such crops, care must be taken to give each such a position as shall insure to the whole, when under crop, an harmonious assemblage of useful articles, rather than a confused heterogenous mass. Planting the tall and strong-growing things near each other, tends to this.

Supposing the border in question be one of twelve or twenty feet wide, with a brick wall on the north side, on which Peach and other trees are trained, it is only necessary here to say, that if the best possible amount of good is expected from these trees, the border ought not to be cropped at all, within at least six feet of the wall. This point, though insisted on by almost all, is unfortunately carried out by few. The strong temptation there is to appropriate a piece of well-lying ground for useful, early vegetables, is generally too strong to be resisted; and Peas, Potatoes, and other things, are grown much to the injury of the Peach trees. Where such is the case, liberal applications of liquid manure during the summer, if it be a hot one, ought to be made to compensate, in some degree, for the robbery the border suffers from the vegetables. But of this hereafter: suffice it to say, that vegetables under such circumstances, ought never to be thick; and with careful management, the crops may *all* succeed moderately well on some soils, though certainly not on all; and all must admit, that vegetables near fruit trees are, at all times, hurtful, and often very much so. But to the cropping.

Potatoes.—These universal favourites deserve a place on the south border, to a small extent; and if the ground is very dry, planting the best and earliest varieties of *Ash-leaved*, will be best done in autumn; and when the plants begin to appear above ground, let them be protected at nights, until all danger from spring frosts is over. Rows two feet and a half asunder will not be too much, as it is advisable to give plenty of room, so as not to injure the trees any more than can be helped. Occasional stirrings of the ground between the rows, in April and May, will be beneficial; the more especially so, as some coverings-up that may be necessary at that time, to preserve from the frost, will trample the ground. Potatoes deserve the first place in a south border: but plant no more than sufficient to meet the wants of the table, till others come in elsewhere, and do not let any remain for seed.

Cabbage.—Very few of these ought to be planted on a border, bearing also wall trees; but a few rows may be put in, to come into use very early: and immediately they are cut, pull up the stumps; do not leave them to grow again there; and let the whole be removed as soon as others are ready to succeed them elsewhere. Where there are no trees, however, they may stand, if wanted; but I do not regard Cabbage as a legitimate south border crop, but a few may be tolerated, of the earliest kinds, and for early use only.

Radishes.—This useful salad root may be sown nearer to the trees than anything else; even if sown close against the wall there may be not much harm done. Sow as early in January as the ground will admit, thin freely, and do not allow one to overgrow its proper size. It is very often the waste or overgrown crop does more harm than the legitimate one; and, in Radishes, this is most likely to be the case. A bed may also be made in the ordinary border, when this crop is much wanted; but let there be no more sown here than sufficient to serve till others come in.

Peas.—The Pea crop is, perhaps, the most injurious of all the crops grown on south borders, and is one which offers the greatest temptation to plant there. But if it must be so, do not increase the evil by having the rows very thick—six feet apart for *Emperor* and *Early Frame* Peas; and remove them altogether as soon as others come into use, on other ground, giving the place they occupy a good watering with manure water, if the weather and the ground be dry. The middle or the end of November will be time enough to sow. A row of Spinach between the Peas will come in early: but do not sow this or anything else, on this border, that can be done without.

Lettuce.—To have this salad at all times good, it requires to be planted in almost all parts of the garden; that to stand the winter, and come into use early in the spring, must be grown on a south border. Various sowings of the hardy *Brown Cos* may be planted at intervals in the autumn; but the principal supply of hardy *Hammersmith*, a small green Cabbage-kind, that stands better than any other when pretty well grown, ought to be sown about the 12th of August, and planted where it is to remain. A bed of seedling Lettuce plants may also be sown on this border; but they must be removed as early as possible; as also must all cut or useless Lettuce; for it often happens that it is the overgrown crop, instead of the useful one, that does the mischief to the fruit trees, or, what is the same thing, to the ground for other crops.

Turnips.—This is rather a precarious crop, and deserves more attention than is often given to it. A bed sown in the middle of March will be quite soon enough; and as soon as the plants are up, let them be protected from late spring frosts, which are said to have a tendency to make them run to seed. The *American Stone*—not the most early variety, certainly—is still as good a one as any for first use.

Turnip Radishes.—These will always come into use, in an ordinary way, before Turnips; therefore, a

few of them ought to be sown early in January, to draw for any purpose for which they may be wanted.

Dwarf Kidney Beans.—A small sowing of these may be made here in the early part of April; but let the quantity be as small as possible, and remove them altogether as soon as others come in elsewhere. The *Victoria Dun*, or *Mohawk*, is a very good variety; but much depends on the season, and local influences. Do not, by any means, allow them to remain one day after they become infested with the red spider, as it will spread to the wall trees.

Seed Beds (various).—Small patches of Cauliflower, Lettuce, Brussels Sprouts, Savoy, Red Cabbage, and other things, may, at times, be sown here; but do not, by any means, increase the number of these if they can be sown elsewhere with equal advantage; and do not allow the spare plants to remain in the bed when the crop is planted. Pricking out a few in another place will generally do as well as anything, and the original bed can be cleared; but as these plants are all wanted early, they may be allowed, for a time, a place here. The end of February, or beginning of March, is as early as they can be sown without protection. This, however, depends much on the season, and other things tolerably well known to all cultivators.

Concluding Remarks.—I have not included *Cauliflower* in the lists given above, as I have often seen more evil from this crop than any other. Where, therefore, there are handglasses, or other modes of protecting the plants through the winter, the open square is about as good as the south border; consequently, I would not advise their being planted there: and it is only to retain their protection a little later in the spring, and the same result is obtained. Where, however, there are no wall trees to suffer, they may be planted at will. I have also excluded *Broad Beans* from this border, as they are not generally in so much request as the things I have mentioned; besides which they are an unsuitable crop. *Celery*, however, may be planted to a small extent for the very earliest use; but on all dry light soils it will do better, and come really sooner into use in the open square, as it requires a greater amount of moisture than is always accorded to it in a south border. Some other crops are also, at times, grown here; the tastes, or wants, of the family being, of course, in all cases, consulted first. Nevertheless, the principle at first laid down in this article, that "as little as possible ought to be grown on a south border," should never be lost sight of. And though the number of things above-mentioned be large for this department of the garden, let it be reduced to the lowest quantity that can meet the requirements of the case; and be sure always to bear in mind that the fruit trees against the walls are the legitimate crops; and that all others are intruders, which must be expelled as soon as possible.

J. Robson.

CEMENT AS A LINING FOR WATER TANKS.

I notice, in a late number of your journal (which I read every week), some remarks on the employment of cement as a lining for water tanks. So far from Portland cement not answering equally well with Roman cement, I believe it to be greatly superior for all such purposes. Composed of the same ingredients (lime and alumina) as Roman cement, but mixed in different proportions, Portland cement undergoes a degree of baking which makes it 33 per cent. more dense and compact; and, as a consequence, gives it much greater cohesive power and hardness than Roman cement. The closeness of the particles thus attained, renders this cement more resistant to the penetration of water, to the attacks of frost, and to the growth of confervæ on its surface, than cements of a more open and porous nature; and it is on this account it has met with such a favourable reception for horticultural purposes, in the construction of tanks, fish-ponds, footways, garden-edgings, &c.

Like other good materials, it is liable to spurious imitations, at a reduced price; and what is, perhaps, worse, to great abuse in the working of it. Your correspondent's failure in hot-water cisterns, may have arisen from either one of these causes; or, more probably still, from that which you yourself suggest—an improper foundation. Tanks and cisterns should never be built in mortar. The bricks should be bedded in cement, both sides and bottom, to prevent a settlement in the structure; which, if it once begins, no mere lining of the best cement in the world can counteract. A crack, all but imperceptible, will soon empty a cistern of its contents; and if the brickwork itself is faulty, there is no alternative but to reconstruct it. The replacing of the cement surface, or filling up the crack, will have no good effect; for being a non-elastic body it will continue to give way with the subsidence of the brickwork, and thus destroy the water-tightness of the receptacle.

If well done, nothing can be more economical, durable, or agreeable in appearance than Portland cement tanks for gardens, whether sunk underground, or constructed as reservoirs under pumps. The bottoms should consist of one brick in thickness, laid flat, and bedded in Portland cement guaged with an equal quantity of sand, on which should be laid a course of plain tiles, also well bedded in cement. The sides, half a brick in thickness, laid in cement, should be built on this bottom or groundwork; and the whole interior is then rendered, with the cement brought over on the top course of bricks, to form a semi-circular coping. If the bricks are square and hard, it is not necessary to coat the tank externally with cement: but its appearance is improved by colouring the bricks with a liquid wash of the same material.

There is a person in Normandy, a great amateur of Portland cement, who, amongst other ingenious applications of this material, constructs these tanks on an extensive scale; and I have by me one, made of bricks and English cement, which travelled hither as safely as though it had been made of cast-iron. The cost of such cisterns, four to five feet long, two feet six inches to three feet wide, and two feet deep, and holding about 200 gallons, does not exceed thirty shillings. And if it be desired to transport them from one place to another, it is only needful to construct them on planks in the first instance, upon which, by the help of rollers, they can easily be shifted to any desired point.

A short time should elapse after making, for the cement to attain its hardness before the cistern is filled with water; after which it may be used for either hot or cold water indifferently. Being a manufacturer of, and equally interested in, both Roman and Portland cements, I have no motive for thus contrasting the one with the other, but that which arises from the facts furnished by every day's experience. I enclose my card.—G. F. W.

QUERIES AND ANSWERS.

MANAGEMENT OF VINES IN A GREENHOUSE.

"My greenhouse is a lean-to, with glass to the ground. In July, 1856, I planted ten *Black Hamburghs*, and three *Muscats of Alexandria*, which do not progress as I should wish. As the glass is down to the ground, the Vines have to be brought under the sill into the house, and have six feet before reaching the rafter. Last year, the Vines were cut down to one foot from the ground. This last summer, they made shoots from six to thirteen feet long; but the wood was very small, the best of it not being more than one inch and a quarter in girth. As I have one Vine to each light, I now thought of cutting each down to the bottom of the rafter, and lead two shoots up the light; but, I have been persuaded, as the Vines are so weak, to cut them down to three eyes of last summer's wood. Will you oblige me by saying what your plan would be? My object is to have the Vines in bearing as soon as possible. I am afraid last summer's treatment was

not right, as, at the latter part of the summer, the leaves were much scorched, and all fell off. Was that from want of moisture at the roots, or in the house? The border is made mostly of turf from a pasture, bone-dust, &c., about two feet and a half deep, resting on a chalk bottom. I suppose, according to the old adage of "locking the stable after the horse was stolen," after the Vines were scorched, we began pouring water to the roots in abundance. Soon after, the Vines were attacked with mildew. The hot-water pipes along the front of the house touch the Vines now; and, as I must have them removed, how far should they be from the Vines? Also, how far should the Vine be from the glass? As my house faces the south, would blinds be good things in summer?"—Amateur.

[The first thing you have to determine is, whether plants or Vines are to be the principal object. If the first, one stem to a rafter will be sufficient; and it would be as well to have the stem of the Vine ultimately bare in front, as far as the base of the rafter, and in order that light may stream in unobstructed on the plants inside. If Vines are your object, then there is no reason why you should not have Grapes against your upright glass, as well as on the roofs. Your Vines have not grown alike; and there is no necessity for treating them alike. Shoots that were thirteen feet long, and more than an inch in girth, you may cut back to the bottom of the rafter. As the buds break, you may retain those on the lower part of the stem, letting them grow from six to nine inches; and then stopping them, if you mean ultimately to take them away; but, eighteen to twenty-four inches if you mean to fruit them there. In either case, let the terminal shoot grow on without stopping, and allow each lateral to grow at first several joints; removing them gradually, as lately advised, towards autumn. The weak Vines cut down to a bud or two, and take only a single stem—letting the laterals grow at first to encourage girth. The wires for training on, should be fifteen inches from the glass, especially of British Plate Glass; if small squares with dirt in the laps, a few inches less will do. The pipes should be from six inches to a foot from the Vine stems. Could you not, by planting inside, or some other move, have avoided the trouble of moving your pipes? We fear your Vines were scorched from want of air. Of course, if the roots got very dry, that would help it; and then extra delugings, especially if the atmosphere of the house be extra dry, would be productive of mildew. Avoid all sudden extremes. If Vines are not too near the glass, and air be given sufficiently and early, and moisture in the earth and atmosphere attended to, Vines in general do not require shading, especially the *Hamburgh*, and *Muscat*; and the more sun they have, the harder and firmer will the wood be. In sudden changes from dull weather to very bright sunshine, we have found such kinds as *Sweetwater*, and *Frontignan*, the better from a little shade.]

BLUE AND GREEN PROCESSES IN PHOTOGRAPHY.

"Mr. Copland, in his Photography for Gardeners, does not mention in his blue process, what quantity of solution B. is required for the twenty drops of solution of gum Arabic. And also, I should like to know, if there is a green process."—L. M. N.

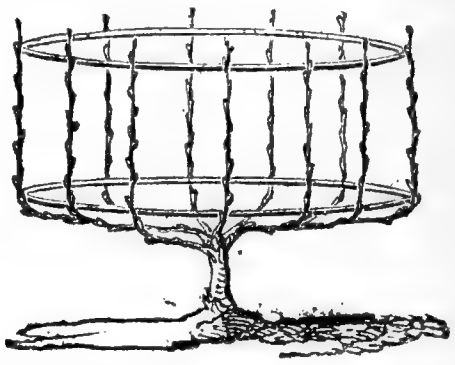
[*Two ounces* of solution B. require *twenty drops of mucilage of gum Arabic*. See "Cottage Gardener," December 1st, 1857. To produce a *green* tint, add a small quantity of a solution of *Prussian blue* to the bichromate of potash used in the *buff* process.

We have heard, that the colouring matter from Cabbage leaves, extracted with spirits of wine, is available as a photographic medium. There is, undoubtedly, a wide field for experiment with vegetable juices; infusion of the Ten-week Stock, common Violet, &c., having been applied successfully many years ago.—E. A. Copland.]

TRAINING GOOSEBERRIES.

"To prevent the shoots of Gooseberries growing downwards, by which the fruit gets soiled, and is rendered unfit for use, I have adopted the following plan:—I make hoops of hazel boughs, and place them over the Gooseberry plant. Two or three stakes are required to fix the hoop to, that it may be kept at a proper height from the ground, to hold the bunches sufficiently high. If one hoop is not enough to hold all the bunches properly up, two hoops may be used. The stakes will require to be left high enough to admit of the second hoop being placed, should it be requisite. Should any of the shoots be ill-placed, they may be adjusted, by being tied to the hoops."—J. Read.

[Your mode of training the Gooseberry tree is good, not only for the purpose of keeping the fruit from being soiled, but to admit light and warmth to the centre, for the better ripening of the fruit. We practised the plan, however, twenty-five years ago, and the following is a woodcut we published of this mode of training.



The Geranium mentioned in your postscript "shanked off." This gangrene is usually caused by too much moisture in the soil, when the plant is not growing.]

TO CORRESPONDENTS.

Hardy Fruit for Yorkshire (*York*).—The following is Mr. Errington's reply:—I have carefully examined your list of fruit trees, which contains many kinds not conducive to the object you have in view. When profit is the chief aim, it is not well to use many kinds; but rather to narrow your views in that respect. And now as to practical advice concerning your soil. I should advise your planting your Pears and Plums on the "brown sandy loam," which contains an unctuous sand: your Apples, chiefly on the strong loam. If any suspicion of stagnant water exists, and you do not care to thoroughly drain, I advise you to plant the trees rather high—indeed, by no means bury the roots deep. s attached to the number means that the tree grows strong; and m, that it is of middling vigour. As kitchen Apples, I suggest the following: they are placed nearly in the estimation I hold them as to profit, &c. Nos. 16, s.; 12, m.; 8, s.; 24, s.; 26, m.; 55, s.; 43, m.; 1, s.; 7, s.; 19, m.; 28, m. To these may be added the *Mank's Codling*, the *John* Apple, and the *Wellington*. I advise you to plant *many* in proportion of Nos. 16, 12, 8, 53. As dessert Apples, take 9, m.; 14, m.; 18, s.; 22, m.; 23, m.; 31, m.; 32, m.; 36, m.; 40, m.; 41, m.; 46, m.; 54, m.: and be sure to let 18, 23, 31, 32, 40, 46, preponderate. To these let me not forget to add one not generally known, but which never failed with me to produce a heavy crop for the last score years, and which would come to market when nearly all are gone. It is called *Lamb-abbey Pearmain*, and will be in use from January to May or June. In Plums take Nos. 8, m.; 9, m.; 3, s.; 10, m.; 11, s.; 12, m.; 2, s. These are placed in the order of their utility, or nearly so. And now for Pears. I place the numbers nearly as to the estimation I hold them in as marketable affairs. Nos. 7, m.; 9, m.; 10, s.; 12, s.; 29, m.; 30, m. I, however, cannot express too high an opinion of the merits of Nos. 29, 7, 9, 12, 18, as sure bearers and marketable stuff. I may here observe that there are many Apples through the kingdom with local names, which would even shame some of our finely-named catalogue kinds. There are also, I am persuaded, useful Pears for hardy purposes, which have not found their way into accredited lists. This is a pity. The main thing is, for a person to note well what succeeds in his district, and not to lose sight of them; remembering that any one kind may be good or middling according as the climate affects it. As to soil, of course we all consider sound loamy soils of a fair depth as suitable to most fruits; but we must have no water standing below. But climate forms an equally important consideration. No sound and experienced gardener would plant in Kent, Essex, or Devon as he would at York or Inverness.

Meteorological Tables (*Doctor's Boy*).—Thanks for your obliging offer; but we have not room for *monthly* tables. We shall be glad of annual tables, such as that published in our last number.

British Sports (*Wiltshire Poultry-keeper*).—We are much obliged, but have no space to spare for the subject.

Mossy Field (*W. Hanklin*).—To get rid of moss from your field (about which you neither tell us the nature of the soil, subsoil, or elevation), we can only suggest draining, harrowing in the spring, sowing afterwards some white Clover, and giving a top-dressing with coal ashes.

Tropæolum at the Crystal Palace (*H. B.*).—*Tropæolum elegans* made the best bed at the Crystal Palace last year, and the third best bed in 1856—a bright orange-scarlet flower. How they managed the plants before they were planted out in that bed we do not know; but the summer treatment in the beds is nothing different from that given

to strong rambling Verbenas; that is, to be trained down to the surface of the bed, and when the shoots reach the sides, to train them back *over themselves*, and to keep the bed thin of leaves. There are many more varieties of this breed fit for beds, and many other varieties which are not fit for bedding: therefore, unless the *elegans* you buy can be warranted to be the same as the *elegans* at the Crystal Palace, you may be deceived. *Elegans* is a favourite name with florists: and if ten florists had, each of them, named one of his seedlings *elegans* in one season, who should have the priority? And what if only one kind out of the ten kinds was a bedder? Why, that the bedding *elegans* should only be bedded, of course; and the nine other *elegans* must go to the walls and to pillars for support. Last summer we had two *Brilliants* in the seedlings of the former season—one from Dalmeney Park, near Edinburgh; and one from Mr. Salter, of the Versailles Nursery, near London. The latter was catalogued in the London Nurseries before the Scotch seedling reached England: therefore Salter's *Brilliant* is the lawful possessor of our admiration. It is a most beautiful thing in the autumn; but it is a great "runner," and would need to be cramped in pots and in half sand to make a bedder of it.

Camellias in a Drawing-room (*Alice*).—A drawing-room is about the worst room in her Majesty's dominions for a Camellia to be in when it is in blossom, or in blossom bud. The Camellia is an "evergreen," and the roots of evergreens are not so active, or so excitable, as the roots of other plants; therefore, when an evergreen is kept in a warm, comfortable room, the dry, warm air in the room excites the plant, or the leaves, flowers, and buds of the plant, faster than is natural for the roots. The roots might, therefore, be immersed in water, and yet the plant want for water at the same time. It is, consequently, essential that blooming Camellias, in warm living rooms, should be constantly and abundantly supplied with water all the time; and they stand in need of rest and refreshment as much and as often as the other inhabitants of drawing-rooms, who may be exercised beyond their powers at routs, balls, and all the rest of gaieties. The way to rest a Camellia in bloom is to put it for so many hours in a much cooler room than a drawing-room; and the way to refresh it is to allow it to breathe the cool night air as long as it is above the freezing point, and not in a "draught." Not that frosty air in motion is hurtful to the Camellia itself, but that the delicacy of the flowers cannot hold up against it with impunity. The Queen goes early to bed all the year round, and all the best of our families do the same; but those who cannot sleep "a wink" if they retire early to rest, and who keep blooming Camellias in the drawing-room, ought to ring every night about half-past ten to have the Camellias taken to "their own room," where they should rest, and be refreshed till the drawing-room was "dusted, and put to rights," the next day. With that attention, no inmate of the drawing-room will look more fair, or free and cheerful, than the Camellia. As to the growth or keeping green of the Verbenas without roots, why, there was nothing to hinder them from keeping alive, and in good looks, for so many weeks. Any green thing from a hedge, or road side, would have kept green under the circumstances. The Christmas Holly is still quite green in some parts of our church.

Hollyhock and Auricula Seeds (*A Lover of Flowers*).—Sow them early in March. The seedlings will not bloom until next year.

Insects (*Mount Heaton*).—It is a *Coccus*, or Scale Insect. A brushing over with soft soap, sulphur, and water, will kill it. Ants are the great friends of the plant grower. They kill aphides, &c.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

February 16th, 17th, and 18th. Wellington, Salop. *Sec.*, Mr. T. W. Jones, Church Street, Wellington, Salop. Entries close Feb. 8th.

February 22nd and 23rd. South-East Hants. *Sec.*, Mr. James James, Fareham. Entries close February 10th.

February 25th, 26th, and 27th. Hereford. *Sec.*, Mr. Thomas Birch, Hereford.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

POULTRY EXHIBITION AT PRESTON, LANCASHIRE.

(*From another Reporter.*)

We have great pleasure in recording the complete success of this, the third Meeting, of the Preston Society. The exertions of the Committee have been of the most painstaking and unwearied description; and the arrangements generally were far superior to those of the two previous years.

The interior improvements of the Corn Exchange would *now* very readily accommodate (with a full participation of good light) at least two thousand pens; and, perhaps, there is not another building in the kingdom where so few dark positions militate against the equal success of all competitors. A gallery, each side of which is about fifty yards long, has been recently opened around the building; affording not only additional accommodation to the poultry, but the advantages of quite an extensive promenade to the visitors likewise. The general appearance of the Exhibition was, therefore, of the highest character; and the only improvement that immediately suggested itself to our minds was to place (for the future) all the pens of each particular class on the same level, as conducive to general satisfaction to exhibitors; and, certainly, offering by far the best opportunity for relative inspection of closely-competing specimens.

Preston, notorious as it has been hitherto for its plate premiums, has this year adopted a suggestion which appeared in our columns some time since, from the pen of Mr. Hewitt, of Birmingham, that now proved itself entirely satisfactory, viz., to leave the selection of the article obtained to the pleasure of the winner entitled to receive it. It is likewise but common justice to the member of the Committee providing the plate (Mr. Wm. Taite) to say, that for variety and really intrinsic value, the plate offered for selection left nothing to be desired. Teapots, fish-knives, salts, cream-ewers, sugar-basons, toast-racks, sugar-tongs, and a great variety of other equally useful articles, being here offered to suit the wants of the successful, in lieu of the old conventional "silver cups;" that, to a frequent winner, offered but a very limited amount of actual utility.

We will now take a very cursory glance through the respective classes, as they appeared on the prize list. *Game Cocks* stand first; and if first-rate quality throughout entitles any particular variety to this proud pre-eminence, they richly deserved their position. Any casual observer would, in walking along this tier of pens, be quite bewildered if asked to say, "which was the best." All colours, all ages, in continuous "tip-top condition" met the eye on every side; and, no doubt can possibly exist, that this class, at Preston, very far exceeded any such at previous Exhibitions elsewhere; in proof, even the Single Game Cock, lately exultant at Liverpool in the attainment of a £40 first premium, here had to bow the head to a trio of his betters, and was thus compelled to take a fourth position. It will be long before the public can meet with so perfect a treat of symmetry and general excellence; and decidedly the first prize cock on this occasion, left very little else to desire in the *beau ideal* of a Game Cock. It was frequently remarked by visitors, whose interest and practice led them to the Game fancy, that the bulk of the unsuccessful ones would have maintained position at the generality of Poultry Exhibitions. The principal prize fell to the lot of Gilbert Moss, Esq., of Liverpool, and deservedly.

In single *Spanish Cocks*, the majority were excellent; but "lop-combs" totally, or in part, told fearfully to the disadvantage of many an expectant one. We have rarely seen so good a collection as to whiteness and extent of "faces." The *Dorking Cocks* were weighty specimens; the general condition, however, not especially commendable. The *Cochin-China Cocks* were good, and most colours were well represented. The *Brahma Cocks* were also superior. In *Pencilled Hamburghs*, the cock exhibited by Mr. Wm. Worrall, proved not only successful, but (from remembrance) one of the most perfect specimens we have hitherto met with. The "condition" of most of the birds here left nothing desirable. In *Spangled Hamburghs*, the latter trait of character was sadly wanting; and no doubt exists on our minds, that too frequently repeated Exhibition tells most unfavourably on the Hamburghs generally, perhaps even more so than on most varieties. The *Polands* were a good class. A case of "dyeing the tails" occurred here; and, on detection, lost the owner a premium.

Spanish (in trios) were a glory to the Preston Exhibition all through these extensive classes, few indifferent birds were present; but, of the winners, both chickens and old birds, it is almost impossible to speak too highly. Had not the prohibitory figure of £100 each pen been placed, as a retainer, on these birds, the probability is, they never would have again graced the yard of W. Brundrit, Esq., of Runcorn. They were one of the most interesting classes in the Show.

In *Coloured Dorkings*, the time-proved excellence of Capt. Hornby's stock led the way in both the old and the chickens: never were fowls shown in better condition in all respects than they. The *White Dorkings*, on the contrary, were not deserving of praise, being generally faulty. The *Cochin* classes held many wonderfully good specimens; but the matching as to colour of many of them was open to much exception. The *Brahma* classes, both dark and also light birds, were unusually good, and elicited the warm approval of their admirers. In *Hamburghs*, the Golden-pencilled, and Golden-spangled, were

the best represented; but the non-avoidance of "lop-combs" lost many opportunities of success to otherwise well-deserving specimens. The *Polands* were good generally. In the "*other Variety class*," a pen of *Guelderlands* were very curious, newly-imported birds, and excited much attention among visitors. Of the *Sebright Bantams*, the Golden-laced were very good, but the Silver, inferior. The display of *Game Bantams* was a perfect Show in itself; and we find, another year, it is intended they should constitute a distinct class. Among them, we noticed a very pretty pen of "Brown Reds," the property of Wm. Worrall, Esq., of Liverpool; but, like many of this beautiful variety, *they must be reduced in size by inter-breeding* before they come within the standard limit of Bantams. Some of the Duckwings were likewise very commendable. The Aylesbury and Rouen *Ducks* were good classes. The *Pigeons*, generally, were excellent, and were very conspicuously situated along the principal gallery.

Much as has been done this year to improve the Preston Meeting, the Committee declare themselves resolved not to remain unprogressive; and, it is anticipated, another season to offer £100 in prizes for a Single Game Cock Class: whilst, judging from the birds now competing, the success of obtaining first-rate entries is certain. We cannot conclude without a well-merited expression of praise, as to the continuous attention paid to the poultry, the excellence of the food provided for them, and the quick dispatch homewards of the birds at the close of the Exhibition. The Committee tried energetically to prevent mishaps: and having so well succeeded, we trust that the Preston Meeting may annually increase in both public estimation and general success, for none deserves it better; nor can any place of accommodation, for both visitors and poultry, be found superior to their Corn Exchange.

LEGS OF WHITE GAME FOWLS.

I must premise that I do not exhibit birds of any description, so your readers must not regard what I am going to say as the grumbling of a discontented and beaten exhibitor; but, as the calm thoughts of a disinterested looker-on, and one who breeds fowls merely for amusement. At Liverpool, the first prize, and, at Preston, the whole of the prizes and commendations, were given to birds with *yellow* legs. Now, Sir, I contend that this should not be the case, when equally good birds were present having white legs. Moreover, I contend most strongly, that White Game fowl should have white legs, white nails, and white beaks. First, because the birds then have a more uniform appearance. Secondly, because they are more high-couraged than their yellow-legged relations; and, lastly, because the neck and saddle hackles are far more purely white than in the yellow-legged variety. What say you, Mr. Editor? and what say they of Nottingham; where White Game are said, in your journal, to have been first rate?—White Game Cock.

HAMBURGH FOWLS.

On looking over your papers of the past year, I see a great many very favourable letters relating to the magnificent laying properties of the Hamburghs. Now, fully agreeing that under *certain circumstances*, Hamburghs are the most prolific egg-producers, still I write to caution the poultry keepers against supposing, that under most circumstances, these fowls are good ones to keep. They are profitable only under a few circumstances.

The idea of writing on this subject, has been suggested to me by the disappointment many of my friends have felt, at the failure in egg-laying in Hamburghs, for which they have given large sums: they failed, because the fundamental rule in the keeping of this breed, viz., that they must give their fowls a *large grass run*, has not been looked to by them.

On reading this, it is very possible, many will say, that there is an account in The Cottage Gardener, for July 7th, 1857, of Hamburgh fowls kept in "pens five feet high, with roosting-houses a yard and a half square;" and, "that those individuals who cannot boast acres of grass run, may keep Hamburghs to advantage in such enclosures." This is signed, "E. Sharratt, Rugeley." Of course, I cannot doubt the correctness, and truth of this letter; but, I warn your readers that such a case is the exception, not the rule. Game, Spanish, Polands, Bantams, and Malays, will all thrive to some extent in a small enclosure; but, Hamburgh fowls will, in nineteen cases out of twenty, not do so. I know this by woeful experience; for I kept most beautiful Pencilled Hamburgh pullets in a yard with other fowls, and they never laid. I removed them to a country run, and they laid directly. To keep these birds in a small confined space, is not only a loss and disappointment to the owner, but a great cruelty to the fowls themselves. They *must* be treated differently to other breeds.

Such is the dark side; but, on the bright side, keep your Spangled and Pencilled birds properly, cleanly, attentively with a large, fresh, grass run, and you will breed birds that will carry the first prizes. Then your birds will possess the delicate accurate colouring, and feather; the rich red rose-comb; the showy earlobe; the graceful carriage; the slender blue legs; the white nails; the bright eyes.

Hamburghs are delicate fowls, and require attention both in health and disease. They require also to be treated with gentleness, as they are very shy.

I consider that the Silver-pencilled birds surpass the other classes, both in exquisite beauty and egg production; but the Golden-spangled, and Golden-pencilled, have one advantage over their Silver brethren, namely, that their plumage in wet weather, does not appear half so soiled and draggled as that of the others.

But, why are the handsome Black Hamburghs so utterly neglected? Handsome, prolific, compact as they are, they surely merit a better fate than obscurity, and oblivion; and, I hope, this fault will be rectified.—A Wiltshire Poultry Keeper.

REARING SONG-BIRDS—THE BLACKCAP.

I shall now continue a series of letters, which I began some four months back, on rearing song-birds. I select for my present letter, that beautiful songster, the Blackcap. This bird who ranks next to the nightingale only, in rich depth of melody, is, strange to say, very rarely caged, at least, in England. Yet, Mr. Sweet, a well-known ornithological writer asserts, that it is, of all others, the bird best suited for the cage. The Blackcap builds its nest in the shrubs and trees of the garden, and generally at a small distance from the ground. I have often found them in this situation, in a garden near Ringwood, a small town in Hants, a county which abounds in these graceful and pretty birds. When the young birds are taken, they must be reared on bread soaked in milk; must be fed every hour, and kept in a warm straw-strewed basket.

For the food of full-grown birds of this species, nothing can be better than the following paste, which must be made fresh every morning:—Soak a small quantity of white bread in water or a few moments, then press out the moisture. Now rate a small carrot, and add to the carrot and soaked bread a little flour, mix well, and feed your birds on it. Let the Blackcaps have plenty of water for bathing and drinking; and plenty of clean red sand at the bottom of their cages. Give them, in summer, gooseberries, or currants, to peck at, and bits of lettuce. If they mope, give a meal-worm; and give them, once a week, a few ants' eggs. They are delicate, but to birds more repay attention than the sweet-singing, graceful, melodious Blackcap.—Ruris Amator.

OUR LETTER BOX.

Roupy Cochin-China (*J. F.*).—"Wash the head twice daily with tepid water. Give it daily sulphate of copper, one grain, mixed with oatmeal mashed with ale; and plenty of green food. If not better in a week, kill the fowl." The above is from our "Poultry Book for the Many." The price is only sixpence, and will give you all such information. Separate your Cochin from the others; roup is contagious.

Errata.—In the first column, second line, page 302, under the head "Scraps from and to Correspondents," for "juivent," read "suivent;" and for "ressemblant," read "ressemblent."

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WEEKLY CALENDAR.

D M	D W	FEB. 23 TO MARCH 1, 1858.	WEATHER NEAR LONDON IN 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
23	TU	Gnidia imberbis.	30.264—30.230	52—24	S.W.	.03	1 af 7	27 af 5	4 af 50	10	13 37	54
24	W	EMBER WEEK. ST. MATTHEW.	30.154—30.039	53—22	S.W.	—	59 af 6	29	5 38	11	13 28	55
25	TH	Hovea purpurea.	30.280—30.128	42—22	S.W.	.03	56	31	6 10	12	13 19	56
26	F	Pimelia decussata.	30.461—30.451	51—23	S.W.	—	54	32	6 32	13	13 9	57
27	S	Salvia gesneræflora.	30.453—30.392	53—29	S.W.	—	52	34	rises	☺	12 58	58
28	SUN	2 SUNDAY IN LENT.	30.498—30.465	59—28	S.W.	—	50	36	6 37	15	12 47	59
1	M	Acacia grandis.	30.496—30.472	54—32	S.E.	—	46	50	7 54	16	.....	60

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 47.6° and 32.7°, respectively. The greatest heat, 64°, occurred on the 28th, in 1846; and the lowest cold, 18°, on the 23rd, in 1855. During the period 114 days were fine, and on 103 rain fell.

PRESIDENT AND SECRETARY OF THE HORTICULTURAL SOCIETY — SOWING SEEDS — SPRING PROPAGATION.

ANOTHER very important step has just been taken to render the influence and authority of the Horticultural Society more popular, and therefore more useful, than it has ever yet been among practical gardeners—the gardening "influence" of the entire country. There is no class of men in the British isles which has a more direct influence on the nature of their calling than gardeners, and, at the same time, a more private influence, which can never be got at, or be influenced by what we call public opinion. The nature and mode of this influence is most powerful, and yet almost imperceptible to those who are, or may be, guided by it—that is, to the best patrons of gardening. I have been so long accustomed to the nature of this influence, that I can foretel, in some measure, how the movements in the Horticultural Society are likely to be affected by it; and being, as I believe myself to be, one of the best friends to the interests of the Horticultural, of all the public writers on gardening at the present day, I shall briefly endeavour to explain the influence, and the way it will tell for or against the Society.

Be it, therefore, known, to all those who are not already aware of it, that nine-tenths of the best gardening families in the three kingdoms keep private secretaries and privy councillors, to whom all their gardening resolves are entrusted, and by whom all their great gardening "questions" are determined. Both offices are centered in one individual, and that individual is the head gardener. What the secretary and privy councillor may say, about any "movement," may "go in at one ear and out at the other;" but if the thing is "worth mentioning," it is sure not to die out. It will first be "thought about," then "talked of" by the family; after that the "subject" will run the round of a dinner party, and every one in the party wonders that his "opinion of the thing" squares so exactly with that of all the rest. The secret being, that they all had their inspiration "of the thing" from the same source—the "mind" of the privy councillor.

Gardeners are like the rest of the Queen's subjects—they never agree among themselves; but let an Emperor "cast a slur" on the poorest gardener in the country, and we are all up in arms against that Emperor the next day; and before the week is out, the whole "mind" of the privy council is at work *against* the power and influence of "that man" all over the three kingdoms.

When it is known in the privy council that his Royal Highness the Prince Consort has consented to become President of the Horticultural Society, in the room of the late Duke of Devonshire, the whole body will congratulate itself and its numerous patrons on the appointment. The Prince is a popular man—he is fond of improvements, and of all branches of natural science; but, after all, the great source of his popularity is his natural kindness and affability—two of the strongest qualities under heaven for uniting the most opposite minds into one compact body; and a "body," which is influenced by natural kindness and affability, will attract other bodies towards itself and its interests, as surely as the magnet gathers metallic fragments together.

The next step for the Horticultural Society is to find out another person, who is known for his kindness and affability *among gardeners*—the privy councillors of the gardening world—and elect him Secretary in the room of Dr. Royle. Then let the Society cancel, for ever, the office of Vice-Secretary. "Double government" never worked well for the Society, any more than for India; and the "Court" of Direction for the last thirty years never "put up their horses" at the same stable with those of the privy councillors. Hence the source of all the failures and misfortunes of the Society. Play the same game over again, as is now rumoured in the privy council, and we shall have our dessert after dinner.

SPRING-SOWN SEEDS.—I have said that all garden seeds may be sown in the spring, whenever the ground is in a good, dry, working order, without the least fear that cold will hurt them. On the west coast of Scotland, and in some of the islands round that coast, I have heard of "spring crops" being sown six weeks out of time, because the air is moister there, and the rains come oftener than more inland, making it very difficult to "catch" the surface-soil in a good condition at the proper moment, or the customary time, for sowing such and such seeds. But those who are fortunate enough to be on a sound foundation, with an easily-workable soil above, need not heed the advice; they can "sow, reap, and mow," whenever it suits them best. Last autumn I wrote about sowing the *Chinese Larkspurs* in September, October, and November, and have done so myself, and most successfully, too, as I shall tell when the chickens are hatched. Indeed, although I have no idea of such a thing this moment, I should not wonder if I were to exhibit a bed of China Larkspurs next May, at the Chiswick Show, in full bloom, if only to show how easily one may have them in bloom, by that time, for the open garden. But more of this after a conference in the privy council.

One of our correspondents said, last autumn, that he sowed seeds of the new Larkspur, called *Delphinium formosum*, about this time last year; that he kept them under glass till May, that he planted them out, and that some of the seedlings were then in bloom. That was a very good hit, and well worth following up in after years, with other such novelties; but, when a plant of this description is common, as this Larkspur is now, the best way, the easiest, and which will be the least expensive, is to sow the seeds at the end of April,

in the open ground, and manage as for biennials; that is, sow them thin *in rows* (sow all flower seeds in rows), if the seedlings are not to bloom in the same bed, and transplant them out in damp weather, when they are as fit to handle as Lettuce plants from a seed bed; and in the autumn, or next spring, remove them to where they are to bloom.

The country is brimful of this Larkspur, and every one with a garden ought to have it, and may have a score of it for a few pence, from a packet of seeds; and that is just the best way to manage them, unless one has plenty of glass room, and time and patience to bring them up "by hand" in flower-pots.

This is a good time to take up, and pot, some of the strongest of last year's seedlings, to be brought forward in a gentle heat, so as to come into bloom by the middle of May; the heat of a top shelf, in a cold greenhouse, would just suit them, judging from my own stock of the Chinese kind; but, I am going to put in a couple of pots of the *formosa* seedlings of last year, so that I may be quite sure, from my own experience, whether the thing would be likely to "pay" for the flower garden. Anything that I can manage in my own want-of-room "establishment," need not go to bother the authorities of the Experimental, and any one, with a grain of experience, may excel me in anything for which he or she may have sufficient room. Therefore, when I am able to say this *will* do, it is sure to do; but when, in addition to this, the thing is fully proved in the Experimental Garden, my authority for it is *infallible*, and not knowing but one more infallible authority, was the reason for desiring an order from the Vatican to inspect the Experimental Garden; but, if "Italicus" will send me his proper address on a stamped envelope, I shall have no scruples about giving him "a preference share" in this infallibility, for his own private use.

Last week I sowed, perhaps, a thousand seeds (no matter about the kinds); they ripened too late last autumn to be safe, for me, to trust them in pots; but, with my convenience, I do not expect to see many of them above ground till the beginning of April, so that I must have sown them five weeks, at least, earlier than might be thought necessary; they will suit my convenience, however; I shall keep the pots dark, or much out of the sun, till the seedlings appear, and by that means they will require very little water all the time; the soil was damp enough at the time I sowed these seeds, and the seeds will be in three weeks certain, if not a whole month, before the soil is too dry for vegetation, and not a drop of water shall they have till then: so you see I do more than some of my betters, I practice what I preach; I sow for my own convenience in the spring, and I advise the practice. But there is a deep philosophical move at the bottom of this system. Half the world do not yet appreciate the value of a practical application of scientific truths, to ordinary or "common things," and that half give about ten times more water to their seed pots than is really necessary. They force their seeds in the truest sense, when there is not the slightest reason for it, but thousands and tens of thousands of poor seedlings suffer for it every year of our lives, and no one knows the cause, or stoops to study and find it out.

The effect of putting off the sowing of a given kind of seed, in pots, till the very day mentioned in the "Calendar," is this—if the coat of the seed is harder, or more soft than usual, the usual treatment will not bring out the seedling, according to the spirit of the Calendar. A harder seed will take more time to vegetate, and the soft less time, and less water. If the seed is valuable, the "usual" course should be modified; more time should be given to the seed to vegetate, and much less water than most people believe to be necessary. This last modification will induce the first, and my own seeds, which are valuable enough, in my estimation, are now exactly under these very conditions; and I know, that the longer time they take to vegetate, and the less water I give them in the meantime, the more vigorous, and less liable to injury will my seedlings come to hand. Common and ordinary seeds and bulbs will do very well with common and ordinary care, but varieties in both will pay best by being better cared for. There is nothing more hazardous, than to water a delicate bulb the moment it is potted; the soil should be just sufficiently damp, at the time of potting, to effect growth; and to make the effect more lasting, the pot should not be exposed to the sun, or dry air, till the leaves are in motion. That, too, is exactly the best rule for valuable seeds.

But, I am sadly in want of a rule by which to learn to copy manuscript; that is the last thing that I think I shall ever be fit for. I would much rather write out a fresh article for The Cottage Gardener, than revise one that was just finished with this very pen; and that is the best apology I can offer to Mr. Kidd, for omitting to give the pith of his new mode of striking soft-wooded cuttings. His plan is perfectly original, but in transcribing his letter last week, I left out the best part of it. I have seen him since, and we talked it over. The system is a combination, or amalgamation, of two other systems, one of which was in vogue before he or I were born, and the other has been tried in London, without any one there coming to a just conclusion on the subject.

To strike cuttings in flower-pot saucers, in nothing else but sand, I had seen in the Pine Apple Place Nursery, when Mr. Appleby was there; the saucers were placed on a shelf over the front path, in one of the Geranium houses, and about nine inches from the glass; the cuttings were of Geraniums. I thought, at the time, that I exposed Geranium cuttings more than most men, but here I was "done for;" that is one way; and the next way is the oldest I ever heard of, for getting cuttings of the Oleander. It was to put them in vials of water, and to hang up the vials in the front windows. Watercress will come from cuttings on the dining-table, if you throw pieces of it in a basin of water, and so will *Mimulus*. It is, therefore, evident that some cuttings will grow in sand in the sun, and other cuttings will grow in water out of the sun. Now, mix the two systems, and you have Mr. Kidd's mode to the very letter. He has tried it, proved it, and he is quite certain it is better and more safe, with much less care, than any other mode whatever, for Verbenas, Calceolarias, Lobelias, and a host of similar plants. Also, that one boy can put in as many cuttings as five men can make in the time; he fills the saucer one-half with white sand, and one-half with water, or makes the sandy watery compound thick enough to hold up the cutting. If it was all water, the cuttings would fall over on one side, but it is held upright; it wants no watering, of course, and the cuttings will root rather faster than in the usual way, under the same degree of heat. For a kitchen window, this is the best way in the world for cuttings.

D. Beaton.

INSECTS WHICH INFEST FORCING HOUSES.

Many of the older members of the gardening profession will recollect with what dread the attacks of the *Red Spider*, with various scaly insects, bugs, &c., were regarded in fruit forcing. As for red spiders; why, it was almost a marvel they did not run away with the Vines and Peaches altogether; for all ablutions

by the syringe, or otherwise, were seemingly held in great abhorrence, as floors and other surfaces, fifty years since, were kept as dry as those of the drawing-room; as for the syringe, why, it was little used! Moreover, the old flue system was a mortal enemy to the production, or preservation, of all that is called steam; if any moisture was generated by accident in houses, it was speedily devoured by those greedy absorbents, the brick flues.

One feature in modern practice may here be named, the use of liquid manure. I know not whether our experienced first-class gardeners of the present day regard the general use of this as I do, and have done for the last score years; but, I am well assured, that by its almost constant use, with certain other concomitants—about which more shortly—insects of all kinds are kept completely at bay, and, in many cases, exterminated. I will not bate one jot in making this bold affirmation; and, as proselytising is still, as it were, an open question, I would fain make as many converts as I can. Being an earnest advocate myself for this, and for sulphuring, I seldom meet with insects of any kind in the houses here. Aphides, to be sure, we may have at times; but their attacks are very trifling, as the tobacco pot meets them half-way. As for red spiders, they are rarely seen; neither have been since the practices alluded to have been followed up. Indeed, at this time, I am not aware that one could be found amongst the hundreds of miscellaneous things stored about the shelves. The principal insects with which the in-door fruit gardener, or fruit forcer, if you will, has to contend, are the red spider, the scale, the aphis, and the mealy bug—perhaps I may as well add thrips; but this family seems more indefinite than the rest. I merely give the popular names.

To begin with the spider. Only observe what devastations this minute, and apparently insignificant, creature is capable of committing. Vines, Peaches, Melons, and other fruits, fully attest that no further cause need be sought for the ruin of a crop of fruit than this insidious enemy, if it prevail; and not only fruit, but that wood on which the future crop depends. Grapes only swell half their size, and the ripening and colouring processes are protracted, and, indeed, never completed; whilst, as a necessary consequence, there is little flavour in the fruit. In the succeeding spring—the wood, of course, being as immature as the fruit—the buds break with less power, the fruit bunches, as they show, look poor, and may, in many cases, have a tendency to approach the tendril character. After this, even if the trees are this season freed from their enemy, the results are, as might be expected, very unsatisfactory; but, if another season of spiders is undergone, the very destruction of the trees is threatened.

Then observe Peaches and Nectarines. I really know not to which the insect is most prejudicial; but one thing may be affirmed, that the Vine, by its much greater vital power, will longer endure as concerns the very existence of the tree. The Peach suffers amazingly, and its greatest sufferings commence, in general, at, or a little before, ripening time. If the spider commence operations about the period when the last swelling takes place, and continues its ravages, it is perfectly useless to look for any quality in the fruit, or for that bold appearance, and dainty glow, for which this noble fruit is so highly esteemed. The fruit will be insipid, pale, and altogether inferior-looking; and a sad havoc awaits the foliage. This, by degrees, assumes a yellowish-red hue, and the leaves lose their colouring matter, which would appear to be abstracted by the spider: need I add, that a premature ripening of the foliage takes place—a false ripening; and much before the proper period they are almost dried upon the tree. Who, then, can expect well-fed blossom-buds for the next spring? Now, the rapidity with which the spider progresses, depends almost entirely on the amount of heat and drought. As to the latter, I mean it in a double sense, both as regards the air-moisture, and the root-moisture. Plenty of sunshine is most favourable to the progress of the spider; but an intensely dry state of air is almost still more favourable, and this the more especially if occasioned by fire heat. Well, then, let us consider the effect of the drought on the roots, for although too much moisture long continued may be prejudicial, too much drought is equally so. Those who have Vine and Peach forcing to conduct, should pay every attention to the character of the soil as to moisture. This cannot be accomplished by a mere glance at the surface of the border; it is necessary occasionally to make narrow holes in it, here and there, in order to observe what is going on.

My reasons for naming such things is, that I well know the progress of the spider is much facilitated by drought at the root; much more so than many people would imagine. It is astonishing how plants in pots suffer from red spider through this cause, especially those generally denominated "soft-wooded." I surely have said enough to show to the inexperienced, what conditions are most favourable to the breeding and progress of the spider. I may now show what is most adverse to it. These conditions stand most prominent, which I will place according to the importance I attach to them. First, then, air moisture, and syringing when permissible. Secondly, the constant use of sulphur, in some form. And, thirdly, a low temperature. Here we have the curative, or remedial, and the preventive, as it were, blended together. As to the amount of moisture produced in the air of houses, that must in some degree remain a discretionary affair: no practical man may set down specific rules, applicable to all seasons and circumstances. The amount of sunlight, the period of the year, the natural habits of the tree or plant, together with the amount of heat of any kind, must, individually or conjointly, ever modify the application of moisture, whether of vapour or actual wet on the foliage.

I may now pass on to the *Scale* family; and here, as to fruits, the Peach is pre-eminently liable to its attacks. They are apt to get a-head, particularly at or after the ripening period, and are not easily kept under by ordinary means. The main thing is to use preventives during the rest period, when such are easily applied. Soft soap alone, three ounces to a gallon of water, brushed into every crevice; in fact, all the shoots and branches painted with it, will, of itself, as I think, destroy them; but the best way is to use plenty of sulphur, and some strong tobacco water, in combination; some add lime.

I might here name the *Mealy Bug*, which is apt to infest Vines, but it is so little known in our houses, in these times, that I will not enlarge on it, merely remarking that the modern practice of all good gardeners, of thoroughly dressing the stems, branches, shoots, &c., of their fruit trees, when properly carried out, of itself seems to bid defiance to all enemies. Such a mixture as that before recommended, may be resorted to, only with some modification, according to the kind of insect it is intended for; thus using more sulphur still where the red spider is the chief foe, and so on.

As for the *Aphides*, do what we will, they are sure to make their appearance at certain periods. In the Vine, we may always look for them, soon after the thinning of the berry is completed, although they do not always come. They, however, affect not the Vine so much as the Peach; and, with regard to the period of their appearance, it is much earlier in the Peach, in general, than the Vine. It is very rare that

Peaches have ceased blossoming a fortnight, before aphides appear. That they do immense injury to all plants or trees, is universally admitted, but to none more than to the Peach. I have for years, in the pages of The Cottage Gardener, urged the necessity of early cleanliness with the Peach, and I may here repeat it, that no permanent success may be expected, if the ravages of the aphis be permitted. And what are the consequences, let us ask, of the ravages of this pest? The earliest young shoots of the Peach, on which we should depend for the fruit of the ensuing year, are blighted and deformed at their very entrance into being; and after one week's ravages of the fly, become almost incurable. The tree, of course, makes a second effort at growth later in the season, but this wood is neither of so good a character, nor so mature, as the early shoots would have been. The fruit, in course of swelling, suffers in a corresponding ratio, and, indeed, the whole system of the tree becomes perverted. The roots, by consequence, also become partially paralysed—if I may use the term—for a while, and the result of all this, is an amount of, at least, temporary debility, highly prejudicial to the constitution of the tree. The Vine does not suffer quite so much; nevertheless, the prevalence of the fly is highly injurious. I may here remark on early fumigations, or applications of tobacco water; such applied as soon as any fly appears, if a little previous, all the better. Indeed, tobacco fumigations should generally be used as preventives, rather than remedial measures. Thus it will be seen, that every precaution is necessary, with fruits under forcing, as to the ravages of insects; and, here, let me allude to the best general means of promoting them. Winter dressings of the branches begin the list; to this let me add, an annual whitewashing and general cleansing of all houses, or other structures. Next in order at the forcing period, secure plenty of humidity in the atmosphere of houses; this continued, less or more, according to circumstances, up to the ripening period. In accomplishing this, mere syringing is not enough, on many occasions; the evaporating covers must be liberally used, and plenty of water thrown over floors, &c.

Cleanliness is one of the main essentials in all forcing houses, and this involves a liberal use of water. But here let me name the frequent use of sulphur, applied to pipes as a paint: it can do no injury if such pipes never become too hot for the touch.

R. Errington.

POTATO DISEASE AGAIN.

In the early spring of the year following that in which the Potato disease appeared, with so much virulence amongst us, anxious inquiries were made respecting those growing in hotbeds, or in some other forced manner. So important did the matter appear, that some of the most popular members of the Legislature made a point of collecting evidence, which was duly reported to the House. That evidence soon showed the evils of the disease, and the inefficiency of the means used to obviate it. Potato disease in frames appearing as bad, or nearly so, as it was the year before. This fact (it is not too much to say) had considerable weight on important political measures then before the House, and, as might be expected, set every ingenious cultivator's wits to work to discover a cure. That some useful ideas were made out, in so doing, it would be wrong to deny; and at various times, since then, further observations have been made, but the main features of the disease, "its causes and prevention," seem as little understood now as they were then, for it continues to exist amongst us to an extent varied by local circumstances, and the difference arising from the characters of the season at a particular period of their growth.

Serious as this is, it would be infinitely much worse if any of the substances, forming the staff of life, were attacked in a similar incurable manner. The Vine disease is the only one analagous to it, but this is certainly more clearly understood, and though, perhaps, not, on all occasions, under the control of the cultivator, the disease is better known, and has been dignified with a specific name, which the other has not. How far the present season may differ from preceding ones, in respect to the well-being of their crops, time alone will determine; but, most certainly, the Potato disease has shown itself in its most malignant form, at an earlier period than I ever had it among my forced Potatoes before; and, if that be regarded as a forerunner of evil, the prospect is bad enough. The particulars of the case are these:—

About the middle of November, and later, when the bulk of the leaves that are usually collected together in the autumn were put into their places, some box frames were placed over them, and planted with Potatoes, of early kinds, which having ripened early during the summer, were already beginning to shoot.

About the same time, or it might be early in December, another frame was made up, mostly of Potatoes that had been left in the ground at taking-up time, and grown six inches or more high, nice, strong, bushy plants. These latter did not seem, at the time, to suffer much by their removal, and continued to grow for some time, but they were the first to show the disease, and have fallen a complete prey to it; they being, in fact, wholly gone. The others resisted for a few days, but followed in lamentable order. I cannot exactly say when it first appeared, but it was not noticed to be very bad, until the last week in January, and, of course, it spread rapidly afterwards.

I mention the above case, as one likely to have occurred in many places, and, as the autumn was exceedingly mild, Potatoes growing unhurt out of doors till after Christmas, there was a great temptation to remove some of them to sheltered positions. Whether that change affected them, so as to cause the disease, I am unable to say, but in the experiment here, I should say not, as they continued to grow after their removal, and were forming tubers of a promising kind. Doubtless, confinement under glass had much to do with it, and, possibly, some changes in the weather at the time, hastened it on. As it is, I hope the general crop of the season, 1858, will not be so bad as the forced ones, or the result will be deplorable enough.

J. Robson.

[We do not consider this as any forewarning that the murrain will be more early, or more virulent, than heretofore, among our open-ground Potato crops. If, as we incline to believe, this disease arises from a long course of unnatural treatment, then, Potatoes so forced, and so unrested, as Mr. Robson's, would be especially liable to the murrain.—Ed.]

NOTES FOR MARCH.

The increasing power of the sun will now give sufficient warmth to excite the seeds committed to the soil into immediate growth. The cold soil, and frequently heavy rains of the preceding month, are unfavourable for the germination of seeds; and, if postponed until the next, some small portion of their season of growth is abridged; therefore, the present month is the best for sowing the general crops of vegetables. No time should be lost, when the weather and the state of the ground will permit, to sow *Parsnips*, *Onions*, *Leeks*, early *Carrots*,

early *Turnips*, a little green *Kale*, *Borecole*, *Savoys*, *Brussels Sprouts*, *Lettuces*, *Asparagus* for planting out next spring; *Peas*, and *Broad Beans*, for full crops, twice this month; *Red Beet*, for a main crop; early sorts of *Cabbages*, for summer and autumn use; *Celery* in a warm border, and a little in a hotbed, to forward for early transplanting and use; *Cucumbers* and *Melons*, in heat for main crops; also *Tomatoes*, *Capsicum*, *Vegetable Marrow*, and *Gourds*, to plant out the end of May, or the beginning of June; *Parsley*, in drills, if not done last month; and *Salsafy*, *Scorzonera*, and *Skirret*, more to make a variety of dishes than to produce heavy and abundant crops; *Radishes*, *Cress*, and *Mustard*, and round *Spinach*, once a fortnight; *Rhubarb*, and *Sea-kale*; a pinch of each sort of potherb seeds, such as *Thyme*, *Sage*, &c.

Nasturtium major seed is to be sown now. It is both useful as a salad, and the fruit to pickle, and ornamental as a climber or creeper to cover walls, fences, rubbish heaps, or unsightly places, with a rich carpet of bright green foliage, or a brilliant display of scarlet flowers, by denuding it of a large portion of its foliage.

Plant out full crops of the strongest young *Cabbage* plants that have stood over the winter, for summer and autumn use; *Asparagus* of last year's sowing, on well dunged and deeply trenched ground, in four feet beds, with three rows in each bed. *Lettuces* that have been wintered in frames, one foot apart, and any that have lived through the winter at the foot of a wall, to be thinned out and planted the same distance apart. *Potatoes*, the main crop, with sufficient space between the rows to allow free play of sun and air amongst the haulm. *Artichoke* suckers, from the old stock, to be planted four feet apart from row to row, and three feet apart in the rows: the suckers to be reduced to three of the strongest on each old stock.

Cauliflower plants, that have been wintered in frames, move into a piece of rich sheltered ground, two feet apart every way; and any under hand-glasses to be thinned out to two or three of the strongest under each, to be propped up with bricks for the admission of air. Forking up the ground, between the rows of *Cabbages* and other crops, will not only promote the growth of such crops, but will improve it for the reception of other crops in succession.

The pruning and nailing of *fruit trees* should be finished with all dispatch, and the protection of wall trees provided for.

The *grafting* of Apple, Pear, and other trees may now be proceeded with, as speedily as circumstances will permit, and where it is intended to head down old trees for grafting, it should be done as soon as possible.

Keep up a good heat in *Cucumber* and *Melon frames*, and continue preparing fermenting materials for making up fresh linings. Attention to be paid to stopping and regulating the runners, that they do not get too much crowded, and those lately planted out should be encouraged with a close moist heat, to get them into free growth as soon as possible.

The *flower garden* should now receive early attention, to carry into operation any alterations or improvements that are intended. Whatever herbaceous plants, such as *Phloxes*, &c., can be divided, or where *Pinks*, *Carnations*, *Picotees*, *Sweet-williams*, *Wallflowers*, *Foxgloves*, *Canterbury Bells*, *Pansies*, *Daisies*, *Columbines*, and such other useful plants as are considered worthy of attention, should now, without further delay, be planted out, to give them a fair chance of producing a fine display of bloom in proper season. Some people purchase such plants only when they are in bloom, and transfer them to their own gardens, when they soon complain of their speedy decay. Seeds of the same sorts to be sown for flowering next year. The general stock of *Roses* to be pruned, and the beds, borders, or plants, mulched with rotten manure. The old stakes and strings of all standard trees to be looked over, and removed, or adjusted, before the March winds commit damage amongst them. The old adage of "a stitch in time," &c., is applicable to many operations in gardening to save us from vain regrets.

To give a fresh and healthy appearance to old walls or fences of *Ivy*, which often look ragged and unsightly, we would advise to clip it close with a shears, when a fresh and vigorous curtain of green foliage will appear in a short time. The planting of *Hollyhocks* should not now be forgotten; they produce a splendid effect when arranged in rows, with the tallest at the back, and with an eye to the contrast of colours; or singly, to break up the sameness of form in monotonous scenery. They may be increased by slipping off cuttings with a heel from the old plants, and placed in sandy soil, in bottom heat, with plenty of top air. Sow *Sweet Peas*, *Mignonette*, and all such sorts of hardy annuals, as may be required. The general routine of flower garden operations should now comprise the frequent sweeping and rolling of lawns and grass plots, preparatory to mowing them, and the turning of gravel walks where necessary.

The *propagation* of young stock, for bedding out, should now be carried on briskly. *Heliotropes*, *Fuchsias*, *Ageraratums*, *Lobelias*, *Cupheas*, &c., will now strike freely. It is unnecessary to extend the list, as the deficiency of any particular sorts will suggest the necessity of alertness for their increase at this season. In the selection of *Verbenas*, the habit of the variety should be preferred; for, however fine the trusses of some flowers may be, they are not all suitable for bedding-out purposes. *Ten-week Stocks*, *German Asters*, *Cock's-comb*, *Balsams*, &c., to be sown in heat. Put in cuttings of any choice varieties of *Dahlias*, of which it is desirable to have a good stock. A few of the new and dwarf sorts are excellent for bedding-out purposes. *Auriculas* will require plenty of air, to prevent the trusses of flowers that are now appearing, from being drawn up weakly, to be protected from frosts, and the flowers as they expand, from sudden sun burst. *Tulip* beds to be gone over, breaking the surface crust with the fingers. To prevent the damaging effects of frost after rain, which sometimes occurs at this season, when the water which lodges in the hearts of the plants become frozen, a small piece of sponge, tied on the top of a small stick, will absorb it; and it will require but very little time for such an operation over a large bed, more particularly where protection by covering is not convenient.

Greenhouse plants will now be making some growth, which is the most favourable time for all that require to be shifted into larger pots, with the addition of some fresh mould, to be then gently watered, merely to moisten the soil, without saturating it; to be kept rather close for ten days or a fortnight, until they have made fresh roots, when the general treatment should combine plenty of air in favourable weather, or at favourable opportunities, with a good syringing over the foliage every fine, sunshiny morning, to refresh the foliage, and to banish any insects that may lurk amongst them, with careful attention that the roots of plants, in a growing state, do not suffer for want of water. A little weak liquid manure to be given occasionally, to invigorate their growth. The application of fire heat, which should be generally given in the day, to be regulated by the state of the weather, which is sometimes showery, cold with piercing winds, succeeded by intervals of mild days and bright sun. *Acacias*, of various sorts, make a fine display at this season, and require a liberal supply of water. *Pelargoniums* will require increased pot-room, and to be neatly staked and tied, to form handsome specimens. *Cinerarias* to be carefully watered at the roots, without wetting the leaves, and to avoid, as much as possible, damaging all plants in bloom with the syringe. *Camellias* done blooming would be benefited by an increase of temperature, and a damp atmosphere; as also *Epacrises*, of sorts which are useful plants for winter flowering, and by starting them into growth now, they will ripen their wood in good time, and flower early in December. *Wistaria Sinensis* to be pruned, cutting the leading shoots half-way back, and the others to be spurred-in rather short. *Cacti* to be grown in a mixture of lime rubbish and loam, with a little cow dung, and in well-drained pots, having been kept dormant from October; they should now be excited into growth, to be fully exposed to the sun, and well watered during the summer. The beautiful Japan Lilies (*Lilium lancifolium rubrum*, and other sorts) to be potted either in good peat soil with a little silver sand, or in a light, sandy loam, with some silver sand. The bulbs to be planted two or three inches deep from the top of the pot, to allow room for the stem fibres to penetrate the soil.—WILLIAM KEANE.

INTERMEDIATE STOCKS.

THE last time I wrote about the *London Intermediate* Stock, in your paper of June 2, 1857, I gave a few hints as to my system of culture, and advocated the supremacy of that

variety over all others, I know of, for producing naturally a multiplicity of double flowers: I am still of the same belief, having practised that system for many years. A good deal also depends on the mode adopted in saving the seed, particularly of flowers that in their natural state come single, but are only admired by the million in a state of monstrosity. I shall explain the method I adopt, to help in aiding to make the singles come double, before I close.

Under the system of growth, described by me in your paper of June 2, 1857, page 137, I proved the said variety of Stock to be the most hardy grown, when properly treated. You highly applauded me for my success in raising my purple variety: it partakes in every respect of the same habit of dwarf growth, doubleness of bloom, and hardiness.

When I last wrote to you about this Stock, I stated that I had got a third decided colour (a pure white) of this class; I purchased it at Messrs. Henderson's, under that distinction. It has turned out very well, in many respects, but scarcely so many coming double as in the scarlet and purple; however, I flatter myself I shall, in some degree, surmount that deficiency, by throwing more vigour into the seed-pods, when saving the seed. I am now in possession of three decided colours, which I consider of an unsurpassed class. I have also another colour, a light rose pink, which is a sport from the same class. I have only one solitary plant, a single (now in a pot); I must grow it by itself, and have to prove whether it will come true to colour. I mean to try to produce, if possible, one of a yellowish shade, by crossing. There is no annual variety of Stock so valuable, and so well adapted for growing in pots, or for the decoration of the greenhouse and conservatory; and (what may be equally as much esteemed by some) for the perfume they would diffuse.

Seed sown about the 20th of May, would flower through the winter; sow again the 24th of June, for early spring flowering. Be particular to prick out the seedlings on to an open border in the garden, as soon as they can be handled; allow them to stand wide apart, to encourage them to grow bushy. When well established, pot them; afterwards plunge the pots to the rim, in some open place, among coal ashes. They will flower in small pots, if attended to, with a little support of guano, or manure droppings diluted with water. No annual flower, I believe, is more useful than this variety of Stock for bedding out, or forming ribbon rows, as the plants do not grow tall. They will begin to bloom when only six inches high, and will continue on all the season, till very hard frost comes on. Once or twice transplanted, the plants, after that, can be conveyed almost anywhere; having such a multiplicity of fibres, not a single plant will refuse to grow, although ever so coarsely handled. A succession of blooming plants may be had, almost all the season round, by two sowings only: the first, say the beginning of April, for summer and autumn; the second, the beginning of July. These will stand over the winter, and flower the first part of the season. The plants of this later sowing, in particular, must be twice transplanted, to keep them hard and wiry; I do not mean robust plants, with a deal of nutriment in them, to be an attraction to frost to lay hold of them. These, or the above plants, at the last planting, to be planted on a narrow wall border—say two rows. Previously to planting, apply a dressing of burnt earth, or old lime rubbish; point it in with a spade, and plant the Stocks in time, only just to have a hold of the ground before frost arrives. These plants, if thought proper, may remain in this position till they show the bloom buds; after that, every double one may be selected, or picked out, before planting. The operator need not be afraid of their growing; I will ensure almost every plant to grow. Indeed, I do not remember one giving way; the roots being so numerous, and small, are soon into motion again.

As I have been an enthusiastic Stock grower for twenty-five years, I shall now describe my system. It may not be new to many, still interesting to a few, of your readers, to know what Stock I would prefer, to insure a greater number of doubles, or monstrosity, flowers from. I first look over all the plants in bloom—those that show extra flower petals—I mean a flower leaf, say extra, occasionally, on some of the flower pips. These plants I select for seeding, by cutting all the side-shoots away from the plant; and also cut the tops off the main stem, when the plants are nearly in full bloom. After that, I endeavour to get the seed as well ripened as I possibly can. When the seed is nearly matured, or got as much good as I can procure for it out of doors, I pull up the whole plant, and allow the seed to dry gradually, with the whole plant attached, from which the seed still receives some nutriment. After it is quite dried up in the stems, I take off the seed-pods, and generally keep the seed in the pods till wanted for sowing.—W. Melville, *Dalmeney Park Gardens.*

DESTRUCTION OF INSECTS IN STOVES.

I have been troubled with the *blatta*, or the American red beetle, for which I have used "Chace's poison" with good effect; and often, on finding the dead carcase of a *blatta* on the floor, it has been completely covered with ants, who manage to drag it away, and, I believe, eat it. I have also heard, lately, from a neighbour (a good grower of stove plants) that the common green plover, or peewit (by some, also, called "lapwing"), is a very good friend to fanciers of stove plants, for this reason—it will not peck, or injure the plants; but will pick up everything in the shape of insect, be it what it may, that can be found in the house. At one time I was dreadfully worried with wood-lice: for the last four or five months I have kept three hedgehogs (mother and two young ones) in my stove, and a wood-louse is a rarity.—Mount Heaton.

NOTES FROM THE CONTINENT.—No. 20.

BULB CULTURE.

In the beginning of October I paid a visit to a friend of mine, the proprietor of a small florist's garden, and found him busily engaged in planting beds of Hyacinths. Holland is generally supposed to be the great producer of bulbs, and it certainly does rank first in this respect; but it often happens that the Dutch traders have not a sufficient stock of some particular sort, and in that case they apply to Germany to make up the deficiency. I see no very great obstacle to bulbs being grown in England (at any rate in some parts of the island) as well as here; and as it may interest some amateurs to grow their own, I will proceed to give the mode of propagation and culture practised by my friend.

First, as to propagation. Some of those which produce plenty of offsets, particularly if they are not very choice varieties, are multiplied solely in this way. With the rarer kinds, there are two methods of artificial propagation employed: the first is to take good sound bulbs, at the season when they are taken up from the beds (which is usually the end of June), and with a sharp knife make two cuts from the base quite through the centre of the bulb towards the point, and at right angles to each other; the next year they seldom throw up any foliage, but make a number of young bulbs, which in three years are fit for the market. The other plan is to cut away the entire centre of the bulb, by passing the knife round the circle of roots: in this way they make more young ones, but they are smaller, and require five years to come to maturity.

In the latter end of September and beginning of October the bulbs are planted out in beds, previously well dug and manured: the largest are planted at about six inches distance from each other; the smaller ones proportionately less, while the very young bulbs and offsets are usually sown broadcast, like seed, as it would take too much time to plant them individually. The large bulbs are placed six inches under the soil, as, if not deep enough, the leaves are apt to droop and wither in hot weather. During severe frost the beds are protected with a covering of reeds, or any similar material which comes most conveniently to hand. In spring they are several times liberally supplied with manure water, generally made from cow-dung. In April the flower shoots are cut off, and either sold or burnt, as if allowed to rot and mingle with the soil, diseased bulbs will be the result; they are exceedingly careful on this point. It is said that the men employed in this operation often suffer from irritation of the hands and face, produced by some chemical property in the flower shoots of the Hyacinth. As soon as the tips of the leaves turn yellow, which they will do about Midsummer, the bulbs

are taken up: deprived of their foliage and roots, they are laid in rows upon the bed, and covered with about two inches of soil: they lie here "to cool," as my friend expressed it, for three weeks or a month; but if the weather should be showery, not so long. They are then taken up, and laid upon shelves in an open shed; every bulb is then carefully examined, cleaned, and sorted into sizes—the large ones to be sold, and the others to be again planted: all that are diseased are burnt, that the malady may not spread to the others.

Except in rare instances, no artificial mode of propagation is employed with Gladioli, Tulips, Crocuses, or any of the smaller sorts of bulbs. The best way with the Gladiolus is to plant it out, and allow it to remain for some time undisturbed.—KARL.

PLACING THE SWARM IN THE STOCK'S PLACE.

IN reply to "B. and W.'s" request in your paper of January the 19th, on the result of placing the swarm in the situation of the old stock, I beg to state that I have practised it more or less the last ten years, but have never gained such advantages by it as I could have wished, although I have tried every method I could invent of treating swarms on this plan, to make them stronger; but have never, in one instance, so benefited by it that would warrant me to recommend it generally. One thing I can safely assert, that swarms so managed I always found to be more rife with drones, than when treated in the usual way. In 1854, I bought five straw hives for swarming; and, considering them rather small for throwing swarms to suit my purpose, I thought I would try the old plan over again of putting the swarm in the place of the stock; but I can assure "B. and W.," that every one of them threw off seconds, and two of them thirds. Nevertheless, I paid a visit to an Apiarian, last week, who commenced bee-keeping in 1824, and who has figured pretty often in the prize list at our honey exhibitions. After passing a few remarks on the state of our hives, I asked his opinion on the placing the swarm in the situation of the old stock. He said he had practised it thirty years ago, but could say little for or against it, as he had never gained much advantage by it in strengthening his swarms, but had always found a greater abundance of drones in swarms so treated; therefore, he had given up the practice a number of years ago.

Such is my experience of "B. and W.'s" system, although I never saw it mentioned but by W. B. Tegetmeier, in the pages of THE COTTAGE GARDENER, and latterly in the "English Bee-Keeper," by a Country Curate, which I procured since; and must say it contains many valuable hints on bee management, and would strongly recommend bee-keepers, and those who are about to commence, to procure a copy of the "English Bee-Keeper," as they would find therein, hints on practical management, to have a greater combination of profit along with pleasure, than perhaps they have been in the habit of practising.

As "B. and W." appears to be interested in the proposed British Apiarian Society, and having a desire to see such an affair started myself, I would strongly recommend Apiarian Societies generally for the exhibition of honeycomb; and by giving prizes for the best specimens, I am convinced that bee management would make more rapid strides for five years to come, than it has done for twenty years past.—A. FERGUSON, *Stewarton.*

SENDING TREES AND SHRUBS TO AUSTRALIA.

I DOUBT not many of your readers and contributors, including Mr. Beaton and the Editor, have long since despaired of the fulfilment of my promise relative to the *living plants*, which were sent out to my order in Tasmania some two years ago, under Mr. Beaton's directions. The fact is, that from the time of their arrival, in July, 1856, up to July, 1857, when I left the colony on my return to England, I have been in constant expectation of a summons home. I, therefore, postponed, from month to month, my intended communication on the subject to THE COTTAGE GARDENER, in the hope that I might soon be able to write from this side the globe: besides which I was desirous of giving some information relative to the success, or non-success, of the experiment, and not merely to announce the arrival of the plants.

I now hasten to fulfil my promise, which I cannot better do than by extracting the following notes from my garden diary, with comments:—

"6th July, 1856.—In the morning came the two boxes of 'living plants,' expected from England ..... 7th. Assisted by the gardener, I unpacked one of the cases [containing, among other plants, varieties of Rhododendron, Azalea, and Erica. This was] at about 10 A.M. A fine sunny morning, after sharp black frost, which had nearly disappeared [as is usual in the Tasmanian winter, by about 10 o'clock]. There was little or no appearance of mildew, although the soil (sandy), about the plants was moist. The greater portion of the plants appeared quite dead, the bark rotten; although the *heart* of the stems was fresh and green, in many instances. The following were immediately thrown away;* while the following† were taken out with more or less symptoms of life. Some had shoots of two or three inches long, weak, and colourless. These plants were mostly pruned down close to the roots, and planted out the same morning, being exposed as little as possible to the air. A few trees [duplicates] were put in a half-spent hotbed under glass; the rest in the open ground [in virgin soil that had been cultivated in former years], but sheltered from rain, frost, and the prevalent winds, by a pent-house of corrugated iron facing east [not the east of an English climate], and covered with Fir branches and old blankets."

Box No. 2 was opened early in the afternoon of July 7, and the morning of July 8. On opening this case it appeared, at first, in a much worse condition than case 1. There was much mildew, of a pale green colour, covering the stems of many of the shrubs, and trees, and labels; so that many of the latter were rotten, and difficult to decipher. Yet there were more plants alive in this case than in No. 1; mostly, however, consisting of forest trees, and shrubs with less tender stems. *All* the Ericas, most of the Azaleas, Rhododendrons, Spiræas, and Lilacs; and *all* the Pines, Firs, Cedars, Cypresses, Cistuses, and Larches, were dead and black. Some had evidently quickened, and put forth shoots during the earlier part of the voyage. Those which survived the voyage, and were planted out, are the following;‡ those which were thrown away were labelled thus. ||

Of those which were planted out, two or three of the Rhododendrons and Azaleas put forth shoots in spring; also a Virginian Creeper, two varieties of Spiræa, two Pyrus Japonica, two *Lonicera flexuosa*, one Aucuba Japonica, three varieties of Holly, one *Laurus nobilis*, one Berberis aquifolia, one English Oak, two English Maples, two Horse Chestnuts, two Hornbeams. Those in italic did not survive the summer; the latter were at rest, and, I believe, alive, when I left the colony. All the others perished.

It remains to be said (as every one who reads the above will conclude for himself), that the experiment was an entire failure; except, only, that it proved *some* trees and shrubs *will* survive the torture of a four-months' Australian voyage, treated as these were. I cannot help expressing the disappointment which I experienced in finding that Mr. Beaton's plan, as detailed some years ago in THE COTTAGE GARDENER, was not that which had been tried, as I wished; but I presume it must have had a trial on some former occasion, and failed.

I cannot conclude without one word of self-gratulation at finding myself once more on English soil, and communicating with THE COTTAGE GARDENER; its old Editor being alive, and, I hope, well; with many of the old familiar names around him. Being now a country rector, I cannot subscribe myself, as heretofore, "A COUNTRY CURATE," but must now content myself with another signature—B. & W.

[If "B. and W." mean "Back and Welcome," we cordially acknowledge the truth of the contractions.—ED. C. G.]

[It thus appears that February is too late to send plants to Australia, or anywhere that way. Consignments sent in

* Those marked *a* in the accompanying catalogue; which is the identical list sent to me by the Messrs. Low, of the Clapton Nursery, who bestowed much care in the packing of the plants.
† Marked *b*. ‡ Marked *c*. || Marked *d*.

October generally lose only from 15 to 20 per cent.; and I have known some for New Zealand where 10 per cent. loss was the utmost.—D. Beaton.]

d Syringa, 3
c d Robinia pseudoacacia, 3
c c English Maple, 3
c d Tilia Europæa, 3
c Hazels, 3
c Norway Spruce, 3
d Betula alba, 3
c d Spanish Chestnuts, 3
c Mountain Ash, 3
c Alders, 3
c Service Trees, 3
c Horse Chestnuts, 3
c English Oaks, 3
c Fraxinus excelsior, 3
d Larix Europæa, 3
c Hornbeam, 3
c c Guelder Roses, 3
d Scotch Firs, 3
c Sycamores, 3
d Ribes Gordoniana, 2
a d —— pleno, 2
a d Garrya elliptica, 2
c c Forsythia viridissima, 2
c Euonymus Japonicus, fal. var., 2
a Buxus sempervirens, 2
c Aucuba Japonica, 2
d d Prunus Laurocerasus, 2
d —— Lusitanicus, 2
b b Euonymus Japonicus, 2
d Phyleria, 2
d Common Irish Yews, 2
c Evergreen Jasminum, 2
a b Ilex aurea variegata, 2
b —— ferox
c —— argentea variegata
b —— tortuosa
—— balearica
b —— aquifolia
b —— ferox, fal. var.
b Andromeda Catesbeana, 2
c Berberis intermedia
c —— aquifolia
c —— rotundifolia
c —— dulcis
c c Spiræa bella, 2
a Azalea autumnalis alba, 2
a —— viscosa alba, 2
a —— coccinea, 2
a b —— Pontica alba, 2
b —— Pontica, 2
c —— crispa, pink, 2
b —— flammea, 2
a —— alba præcox, 2
—— carnea, 2
b —— præcox, pink, 2
a b —— sarenium aurantiacum, 2
b —— aurantica pallida, 2
b —— Pontica, 2
c c Andromeda calyculata, 2
d —— quercifolia, 2
c —— tomentosa, 2
—— pulverulenta, 2
—— paniculata, 2
Syringa grandiflora, 2
a Broom, White Portugal, 2
—— Yellow Spanish
d Erica pygmea
a d —— arborea
—— flore-pleno
—— tetralix alba
d —— vulgaris Foxii
—— vulgaris coccinea
c —— vagus alba
a —— Hammondii
d —— Mediterranea glauca
d —— stricta
d —— Mediterranea Hibernica
d —— vulgaris spicata alba
d —— scoparia
d —— herbacea
d —— vulgaris decumbens
—— rigida
d —— vagus rubra
d —— Mediterranea
d —— carnea
d —— Makayana
d —— vulgaris aurea
d —— cinerea alba
—— Alportii
d —— carnea monstrosa
d —— tetralix pallida
a —— Menziesii, dwarf, 2
a —— alba, 2

a Erica purpurea, 2
a Andromeda rosmarinifolia, 2
b c —— calyculata primula, 2
d Rhododendron Dauricum, 2
a —— Aitonianum
c —— Naviaticum
b —— multimaculatum
d —— hybridum, scarlet
a —— myrtifolium
a —— ferrugineum
d —— Cunninghamii
b —— arboreum album
a —— roseum
b —— azaléoides, 2
a —— nivale
b —— Campbellii, 2
a b —— Ponticum purpureum, 2
d —— Caucasicum robustum
a —— glaucum
b —— arboreum roseum
a —— Marie Louise
a —— niveum
a —— cinnamomeum
b —— roseum
b —— Verschaffeltii
b —— tigrinum
d —— Leopardii
a —— campanulatum
b c Kalmia latifolia
b d Buxus pendula fol. var., 2
d —— stricta variegata, 2
b Ruscus aculeatus, 2
a Viburnum tinus, 2
a Common Taxus, *b*, 2
a Cryptomeria Japonica, 2
a Juniperus Sabina, 2
a Pinus montana
—— Mughus
a —— Cembra
—— Hamiltonii
a Cedrus Deodara
a —— Libani
a Taxodium sempervirens
a Lignum vitæ
a Cupressus funebris
a —— excelsa, 2
d Silver Spruce, 2
a Upright Cupressus
d Juniperus depressa
b b Deutzia gracilis, 2
a —— Haminea
a —— scabra
a Cistus canescens
a —— candaniferus
a —— populifolia
b Lonicera flexuosa, 2
Mespilus pyracantha, 2
White Jasminum
c d Lygustrum sempervirens, 2
b Magnolia glauca
b b Laurus nobilis, 2
b Ilex latifolia
b Virginian Creeper
a Pyrus, double white, *b*
b —— Japonica
b Kerria Japonica
a Koelruteria paniculata
b b Hydrangea Japonica, 2
a Berberis Darwinii
a Yellow Jasminum
a Lavandula, 2
b Evergreen Oak
a Arbutus
b Berberis mucronata
a Abelia triflora
b Syrnga Persica alba
d —— vulgaris, lilac, 2
d —— Sibirica, 2
c c d —— alba, 2
d Pernettya mucronata, 2
d Syringa, Charles X., 2
d Lonicera speciosa, 2
d Spiræa Reevesii, 2
a —— rotundifolia
c —— lanceolata
—— Douglasii
c —— callosa
a —— Californica

GROWING HYACINTHS IN MOSS.

As I have never seen, or read of, the plan I adopt in growing Hyacinths in glasses, I send it to you, feeling satisfied, from my own practice, that if any of your readers will give it a trial, they will be satisfied with the result.

I select the darkest glasses, and, instead of filling them with water, I fill them with moss, gathered from any old building. I keep on adding a little water, to prevent the moss getting dry. The bulb retains its position, and blooms as well as when grown in the best of soils.—A Well-wisher.

ON THE VENTILATION AND COVERING OF HOTHOUSES.

By Mr. Thomas Moore.

It is a well-known fact, that in producing an artificial climate, for the growth of tropical plants, or for the purpose of forcing those which are natives of more temperate regions, the less amount of artificial heat which is applied in keeping up a proper degree of temperature (so that this is done), the better will that climate be suited to its intended purpose, all other things being equal; and it is especially at night, when the plants are surrounded by darkness, and when excitement would be more than ever hurtful, that this becomes of increased importance. At night, too, it has been found that a depressed, rather than an elevated, temperature is desirable for the healthy development of all plants requiring artificial heat, inasmuch as they will not thrive without their natural season of repose.

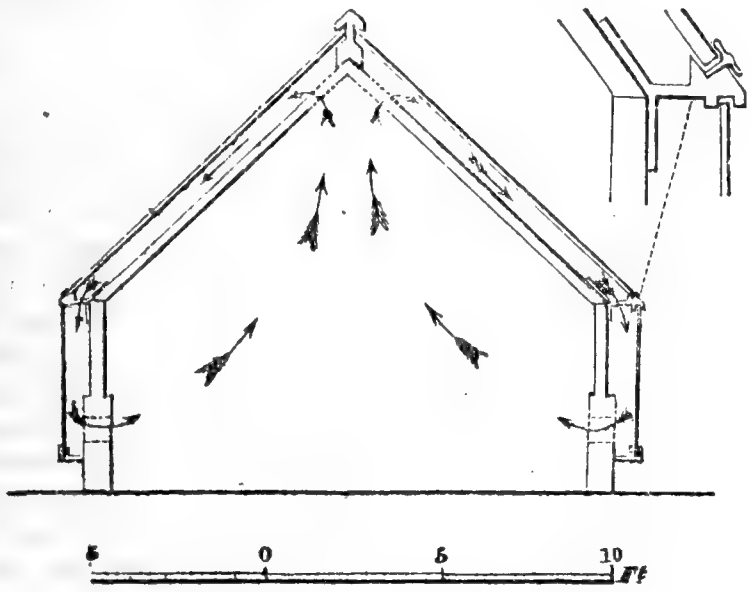
From the changeable nature of our climate, there is some difficulty in apportioning the degree of applied heat, so as to suit exactly the requirements of the plants; and it is especially difficult to maintain, with certainty, the low degree of night temperature which would be desirable, and at the same time avoid risking the safety of the plants, through a sudden and unexpected declension of the temperature of the exterior air. These difficulties, under present circumstances, have to be surmounted by a degree of watchfulness and care, which presses heavily upon the daily rest of those whose duty is thus involved, and incapacitates them, to a certain extent, for those studies which are indispensably connected with honourable proficiency in their vocation; nor is this watchfulness, though rigorously maintained, at all times attended with success.

It appears to me, that the end in view would be much more effectually and certainly secured by a *complete system* of covering hot-houses and forcing-houses; and this, too, would very greatly relieve the attendants. I am aware that night-covering is a generally acknowledged benefit, and that it is in some cases acted on; but it should be more universally, and more systematically, followed up. To assist in bringing the principle of night-covering into more universal application, is the purpose of the following suggestion.

I need not stop to show *how* night-coverings prove beneficial. It is sufficient to state, that whatever prevents the radiation of heat from the interior to the exterior atmosphere, through the conducting agency of the glass, decreases in the same ratio the amount required of *applied* heat, and hence saves the plants from being submitted to unnecessary excitement. The principle upon which a covering acts most efficiently, is that of enclosing a complete body or stratum of air exterior to the glass, this body of air being entirely shut away from the surrounding outer atmosphere; and as air is a bad conductor of heat, the warmth of the interior is by this means prevented from passing to the exterior atmosphere; or, in other words, the exterior atmosphere, being prevented from coming in contact with the glass, cannot absorb from the interior any sensible proportion of its heat. To secure this advantage, however, the coverings *must* be kept from contact with the glass, and they should extend on every side where the structure is formed of materials, which readily conduct heat, such as glass or iron. The coverings, in fact, should form neither more nor less than a *close outer case*.

One point connected with the application of these coverings, which I consider would constitute an improvement, and which, as far as I am aware, has never been acted on, is that of hav-

ing them to fit so accurately as to exclude the external air (a matter of no difficulty in the degree required), and then to have a series of ventilators provided, to stand open during the night, whereby an interchange of the atmospheric volume would take place throughout the night, without exposing the plants to contact with cold air. The stagnation of the internal atmosphere would thus be prevented, in consequence of the interior air, and the air between the glass, and the covering being of different degrees of density, owing to their being differently charged with heat. By this plan, therefore, I conceive that direct benefit would accrue to the plants; and it would also materially assist in preserving that cooler (but not cold) night temperature, which the fear of injury from frost prevents from being now fully realised in ordinary cases.



The annexed diagram represents one of the many ways in which this idea might be carried into practice. It will be understood that, as here shown, the side shutters and end shutters (the latter not indicated) fit into grooves, the upper groove being attached to iron pins, and thus fixed at a proper distance from the building, without obstructing the passage of air along the enclosed space, and that on the lower side being so fixed, as to exclude the external air in that direction. The top, or roof, shutters also run into a groove along the ridge of the roof, and at the lower end fix close down to the top of the side shutters, fastening with a button. Each of the shutters should have a projecting fillet, fixed on one side, so as to shut close over the adjoining one. The shutters themselves should, of course, be made of light frame-work, strengthened where necessary with small iron rods. The material used for covering them may be asphalte felt, now manufactured extensively for roofing purposes, or strong brown paper, coated with tar; the latter is used extensively in Germany, for this purpose, and is found to be *very durable and cheap;* it is there even preferred to every other material.

Though the covering of hothouses has been already practised in some cases, I am not aware of any one having adopted a close covering, with the view to facilitate *ventilation or aëration during the night.* It appears to me that the circulation of air, secured by the means here proposed, would have much influence in excluding cold, whilst, at the same time, it would prevent the interior from becoming too warm and close.—(*Horticultural Society's Journal.*)

QUERIES AND ANSWERS.

CONSERVATORY HEATING—HOT-WATER *versus* ARNOTT'S STOVE.

"I have a small conservatory, twelve feet square, the same in height, built in an angle of the house; aspect, south. It is heated by hot-water pipes, which hot-water apparatus is fixed under the drawing-room, and causes it to be very damp, either from escape of steam, or some other cause. What I wish to know is, if I have the hot-water apparatus taken away, could I substitute an Arnott's stove? It would be put in one corner of the conservatory, merely to keep out frost when very severe. I light a fire now, only when the cold is likely to be severe. I thought of having a pan fixed on the top to hold water, to keep a moist atmosphere in the house."—A Six-months' Subscriber.

[If you merely contemplated keeping out frost, and your plants are not particularly sensitive to a back draught at times, and a rather dried atmosphere, when the weather is very severe, there can be no question that an Arnott's stove would suit your purpose, or even one of those small upright stoves which you will often see in shops in winter. Coke, made small, is the best fuel for them; and be sure you have a proper outlet for the smoke and gases formed during combustion. Unless for the hardiest things, we have no faith in any stoves set in houses, however the fuel be prepared, or cooked, that have not an outlet pipe or chimney. Other things being equal, the longer that pipe is, the greater will be the amount of heat obtained from a specified amount of fuel. A friend of ours has a greenhouse vinery, about sixty feet long, from which he obtains late Grapes, and preserves great quantities of Verbenas, scarlet Geraniums, and Calceolarias, &c., for beds; and this he heats in severe weather with two small upright iron stoves, with pipes from them as chimneys. We think they cost about £2 each, or about 50*s.* to 60*s.* each, with pipes, &c., complete. In order to avoid dust, the stoves are generally carried out of the house to clean them, and light them; and when burning nicely, are lifted in, and joined to the pipe, which overlaps and fits rather closely; and small, good coke being used, there is little smoke; and just the smallest bit of air being left to support combustion, the fire lasts a long time, and every degree of heat is given out to the house. The stoves are generally placed where the hardiest plants are in the vicinity, such as Scarlet Geraniums. Such plants as herbaceous Calceolarias and Chinese Primroses are kept farthest from it. Last season, after supplying a good number of flower-beds, he sold, last year, twenty pounds' worth of bedding-plants, which were preserved and grown as to sale point in that house. We mention these circumstances, to encourage all who merely wish to exclude frost in winter and spring, and that you may see the plan you suggest is quite practicable, so far as keeping out frost is concerned. Under your circumstances, however, we should be very sorry to resort to such a plan in the case of a conservatory adjoining, as we suppose, your drawing-room, much of the interest of which will consist in having plants in bloom in winter and spring, and which you can hardly expect, if your average general temperature is much below 45°, and from that to 50°. We would strongly advise, in the first place, to see if making your hot-water apparatus all right, would not cost less, and be finally more satisfactory than any stove inside the house. If, from giving more details, we can do anything to assist you, you may command our services. There is no perceptible reason why your drawing-room should not be all the *drier,* in consequence of the hot-water apparatus being there, unless there is a leakage in the boiler, or in the pipes leading to the conservatory. If your boiler is a close one, the pipes in the conservatory are considerably above its level, an open place at the highest point for supplying water, and the pipes are sound, it is quite impossible that any moisture or steam can escape. An idea exists, that the heat from hot-water pipes is more moist and genial than from flues, stoves, &c. It is all a delusion; the heat from such pipes, if hot enough, is just as dry and parching as from any other surface. The great advantages of water pipes are, that the heat is more equally diffused; and if there is plenty of piping, the necessary temperature is maintained without any part of the pipes being very hot; and, therefore, no part of the enclosed atmosphere is particularly deprived of its moisture, and rendered dry and parching, as would be the case in the neighbourhood of a stove in a very cold night, unless it was all surrounded with vessels of water; and a third advantage is, that there can be no bursts of deleterious gases into the house, such as sometimes commit such destruction from flues and stoves. We should say, then, see if you cannot make your hot water all right before you get a stove. The connecting pipes below the drawing-room, if open, would dry the floor, &c., of that room; if enclosed in wooden boxes, and the end next the conservatory left open, you would get the benefit there of the heat from these connecting pipes.]

RESTING VINES IN POTS—ESTIMATE OF MELONS.

"I am very much obliged to you for your full and satisfactory answer to my question about *resting* pot Vines. Of

course, I meant resting from *fruit*—not from *growth*. But now, one word more about the 'rest.' Will it answer to rest the Vines out of doors, up to a sheltered south wall, with the pots plunged, and protected from rain when desirable?

"I most entirely agree with what you say in your last number as to the excellence of the '*true* old *Egyptian Green-fleshed*;' but where is it to be found? It was in these gardens for thirty years, when a gardener came who would have something better. The end of it was, that the true old *Egyptian* was lost, and we have never had a really good Melon from that day to this. I have tried again and again to obtain the *old sort*, but in vain."—W. C.

[Keeping in view what was formerly stated, and that resting means resting from fruit, and not from growth, then our answer as to *resting* such Vines against a south wall will be modified according to the time you wish to fruit these Vines. For instance, Vines, in favourable positions, ripen their rods against walls, and fruit on these rods the following year; and there is no reason why the same thing should not take place on the shoot from a Vine-pot plunged against the wall, and especially if protected from heavy and cold rains in the autumn. But such a Vine it would be desirable not to place in a pit, or house for forcing, until February or March, or until the buds began to swell naturally. If it were desirable to start these Vines before or about Christmas, then it would also be desirable that the pots should be started by Christmas, and the shoots encouraged to grow freely until fully the middle of August, when a dull day should be chosen for setting the plants out of doors against a south wall; shading them there a little for a few days in very bright weather, and then letting them have all the sun possible, and just as much water as would prevent them flagging; giving no water at all, if possible, after the middle of September; and if the leaves were getting yellow, removing them to a north wall by the middle of October, and getting them in a dark and cool position by the end of the month. Where house-room was an object, such plants might be taken out of the house by the middle of July. The earlier they are set a growing, the earlier will they force well, if due attention has been given.

Doctors differ, and why should not gardeners? The *Egyptian* was a good, not in our opinion the very best, Melon. We do not know where it could be got true. Melons so soon mix. We grew it long, and, until lately, grew a modification of it a very little larger, but a splendid Melon when got in its prime. Both it and the *Egyptian* had this fault with us that, just as the fruits were ripening, the plants would go off all at once without any assignable cause; so that, though all the fruit that were about ripe were very good, those just changing colour, or not so forward, were little better than Turnips. We have kept them fresh to the last by watering, &c.; but a Melon ripened in a moist atmosphere is seldom worth much. Hence our frequent advice to water Melons, as they approach maturity, at the bottom of their roots, and to keep the surface-soil dry. Even with this attention, however, we found these small Melons peculiarly liable to the complaint alluded to above, though we must own we have had heavy crops without the mischief appearing. A very nice little Melon was sent out some time ago by the Horticultural Society, called the *Mesulapatam*, or something like that. Mr. Fleming's hybrids are generally fine-flavoured, but rather too Pumpkin or Vegetable Marrow-looking. The *Victor of Bath* is a good Melon, but with the long Vegetable Marrow shape. The *Bromham Hall*, the *Beechwood*, the *Golden Ball*, and many of the Persians are most delicious when well ripened under a bright sun, and a dry atmosphere. *Kinds* like the *Egyptian* are very useful for small families; as, being small, many are produced in little space.]

FILLING NAIL HOLES IN OLD WALLS—WASH FOR THE TREES ON THEM.

"Will you inform me what is a good wash for old walls, full of nail holes. I have upwards of 7000 feet, superficial, of brick-wall, which is very old, and from being nailed to for a century or more, is very full of holes, which I have been told is the cause of the trees being so infested with blight. The trees consist of Apricots, Peaches, Nectarines, Figs, and Pears. Now, I want a wash that will not injure the trees, but kill the larva deposited in the wall, and in the rough bark of the trees; and I want it to look of a brown or brick colour, so as not to look different from what it does now."—A. B.

[Our experience will not thoroughly meet your case; but perhaps some correspondent, or friend, may be able to do so. In such a case, we know of an instance of a wall being washed with Stockholm tar; but it had to be done as soon as the leaves were falling; and some of the trees vegetated, in spring, before the deleterious smell was completely gone. We have washed the walls with a thick solution of sifted lime and sharp sand, which filled up the holes, and was too hot even for the larva. To give this a dark appearance, we have used a portion of clay paint along with it. If, when thoroughly dry, the wall was well scrubbed with a hard broom, the loose matter would be pretty well rubbed off the wall, while the holes remained fully well covered. If the holes are chiefly in the mortar, we know of no better mode of making a sound good wall than picking out a little mortar all the way, and then filling it with a lime cement, formed of sifted quicklime, and fine washed gritty clear sand, and a little lampblack to colour, and beat up into a thick paste, with as little water as possible. The success of this slight pointing depends, after getting the right material, upon the *elbow grease*, with which it is well beat together with but little water, and the dexterity and rapidity with which it is applied to the joints of the wall. If well done, the joints of an old wall will be made firmer than the bricks. You could also use a water colour of the colour you like, but it would not be lasting. If you did not mind the brick colour, you might wash it with the lime and sand—brush as aforesaid—then colour all over with lime wash, and in a week or so, when thoroughly dry, give it a coat all over with anticorrosive and oil. This latter mode would look well for several years, and then it would begin to peel a little. But after being coloured with thin lime wash, it would not take so much oil as you would imagine to mix up the anticorrosive.

You could not do better than paint all your old stems of trees over with a paint of clay, made up with weak tobacco water, and a little flowers of sulphur. We have great faith in fine clay paint alone, thin enough to run into every cranny. Keep the larva from air, and they will give us little trouble. If you did not like the colour of the clay paint, you might add some soot, or lime, to get the colour you like best.]

TO CORRESPONDENTS.

Advertisement (*T. H., Edgbaston*).—Your advertisement was charged three shillings and sixpence. If Mr. Granger made you pay more, we had nothing to do with the overcharge.

Gardener's Place in France (*M. N. E.*).—We cannot assist you. Our correspondent, who is a young man, and a proficient in gardening, wishes to obtain employment in a French Nursery. Can any of our readers help him to attain his object!

Erica hyemalis—Cleaning Pots (*A Constant Correspondent*).—When done flowering, cut off all the flower-stalks, and prune away a good portion of the wood of last year. Let it stand for a fortnight or so after that in the greenhouse, to rest itself, as it were; and if then you can keep it closer and warmer, to set it growing afresh, it will be all in its favour. When the fresh shoots are an inch or two in length, repot, if it requires, and keep close and warm again, say from 50° to 55°, if convenient, until roots are getting into the fresh soil, when more air must be given, in order that the shoots may be hardy and robust. We can hardly judge what is the matter with your flower-pots. It would be advisable not to use them but for the commonest purposes. If they have become saturated with sulphur, or any salt, it is likely to come out as an efflorescence. Even if pots have come in contact with strong liquid manures, we like to steep them for some days in clean water, and scrub them well before using. You might place your pots in lime and soap water, and then rinse them well afterwards.

Failure of Sea-kale—Draining Vine Borders (*An Old Subscriber*).—We can hardly tell you the reason of the failure, without knowing more of your practices. If your old plants had large, well-developed buds when you took them up, they ought to have yielded large heads. If your plants had a great number of small buds, instead of a few prominent ones, no taking up and forcing would give you large, stumpy heads. The same rule will hold good as respects your young plantation. Many grow even Sea-kale, so as to have small heads, because they never trouble themselves with thinning out an extra number of small shoots, so as to concentrate the strength of the plant into a few shoots. We have had fair heads from plants sown in March, but that is rather young. The next thing to be considered, is your mode of forcing. All forcing should be gradual. If not well versed

in the matter, instead of at once taking up your plants, and placing them in a hotbed, it would be advisable to take them up carefully, and place or pack the roots in large pots, and then by placing these pots in your hotbed, you can increase or lessen the heat at the roots, by raising or lowering, or adding fresh manure to the bed at pleasure. We have seldom known Sea-kale out of doors, and also placed in the dark in hotbeds, so greatly over-heated at first, that the buds were burnt, and the roots too, and only some small heads obtained; or, perhaps, the whole mass of roots rotted into a saponaceous matter. Begin with a temperature of about 55°, and never let it get much above 60° or 65°, if you wish for a first-rate, short, stubby dish, and as white as driven snow. The longer the head gets, the more watery it is. From four, to six, and seven inches, may be looked upon as good lengths. We should be sorry to cut the roots of very old Vines, and especially if the border is not wider than eight feet. If young and vigorous, it might not have mattered so much, though in their case, as well as in the present case, we would advise picking neatly about what roots you come to, and laying them in good soil, after your drain is made. The drainage may do great good, if there is stagnant water in the border; without that, there may not be any necessity for it. Suppose you dig a few holes to that depth, and see if the water stands in them for any length of time. Of course, you mean to have an outfall for the drain, as one mode of preventing the water standing at the depth of four feet. If your Vines are very old, and draining is advisable, would it not be well to plant a few Vines every year, and renew the border?

CHEAP VINERIES.—"*Investigator*" has thought much of some plans and descriptions by Mr. Ferguson. He proposes having some span houses, with twelve-feet rafters, sash-bars on each side, facing east and west; the houses standing north and south. He has seen something of the kind at Stowe, but he is in doubt how to place these rafters. He contemplates using enough of heat, by means of a hot-water pipe, just to keep all safe; and not to force, at least, not much, though he would like early and late Grapes. He has an idea, that both for late and early Grapes, steep-roofed houses would be best, and, therefore, he would make his twelve-feet rafters meet in the middle ridge-board, so as to have twelve feet or so for the base of an equilateral triangle; the side plates being fixed to posts about fifteen inches above the ground. But then he is aware, that by such means he will have much less room for wintering flowering and bedding plants, less head room, &c., than if he had his roof flatter, and the side-wall plates higher; and council is asked. Will some one condescend to teach this inquirer, who seems quite as fit to teach as to learn. There can be no question, that the twelve-feet base to the two twelve-feet sloping sides, will suit best for early and late vineries, as scarcely a ray of light will be lost, when of most importance, and Grapes will hang better, than under a flat roof. There is also no question, that by raising the side walls to three or four feet, you will bring the width of your house to nearly eighteen feet, instead of twelve, and will have more head room, and convenience for plants; but then you would not have a good crop of autumn Grapes. The two things must be considered by the person most deeply interested, or suppose that several houses of various heights in the side walls be designed, and then devoted to the purposes most suitable. Will some kind friend help us to get our correspondent out of his difficulty?

GOLDEN STONECROP (*W. Elliot*).—Yours is a wrong idea of a natural phenomenon. The Golden Stonecrop cannot be reproduced by "shading the green portion of a plant with mats or other light material till it is blanched." Rhubarb, Sea-kale, Celery, and other common vegetables, are prepared on the same principle, that is, by keeping them from the light. Greens, Cabbages, and Turnip-tops, may also be "blanched" in the same way, and some of the kinds would turn yellow under the process. "*Sedum aureum*," you say, "is not a variety, commonly so called." If not, it is, most certainly, not a blanched effect, but the very contrary. ("Yours is in the sun, probably.") So it is, and without being "in the sun," the chances are, that it would not alter from green to yellow. The true state of the question is this—the Golden Stonecrop is only the common *Sedum acre*, with the yearly growth turned yellow, as soon as the growth is ripe in the autumn. The cause of this yellowness is the same as the cause of the leaves of the Virginian Creeper turning purple, when they are ripe; but the normal form of this kind of Stonecrop being green, the yellow is a departure from the normal state, which we call a "sport." Our Golden Stonecrop is now turning most beautifully into the ripe and yellow condition, under a south wall full in the sun. The cause of the delay in our plants turning yellow, was this. We had them from a worthy friend in Yorkshire, late in the summer, and they took to a vigorous growth soon after, and that growth had not sufficient time to ripen and turn yellow at the usual time in the autumn, but the more it is in the sun, and the higher and more scanty its food, up on the high cliffs of our highest rocks, the less it will grow, and the sooner, in the autumn, that growth will ripen, and when ripe it will assume the yellow tint. The fresh growth in the spring comes green, like other plants, and keeps green till the autumn, but being an "evergreen," the "autumnal tint" remains till it is replaced by a new growth.

GRASS FOR EDGING (*G. H.*).—It is *Isolepis grandis*, and can be obtained of any London nurseryman. We published a sheet manual of kitchen garden operations; but the copies are all sold, and we have not a copy left to reprint from even!

LEVIATHAN PEAR (*W. H. H., L. D.*).—We have no reason to doubt Messrs. Clarke and Co.'s statement; and there is no reason, if the weight was attained, why you should not, in a sheltered situation in Gloucestershire, attain similar fruit upon an espalier tree. Buy "Fruit Gardening for the Many," published at our office, price 4*d*. You will find there select lists. Any of the Apples, Pears, and Plums there named will suit you. Your Hamburgh Cockerel has a slight oozing of blood upon the brain, causing partial paralysis. The time which has elapsed will be a bar to any claim against the vendor. Keep the bird quiet—attempt to catch him might cause immediate death. Give him soft food, and abundance of green food. We knew a hen recover from a similar attack, and live for two years after.

ERROR.—At page 298, *Tritonia* should have been *Tritoma media*.

CHEMISTRY OF THE WORLD (*M. S., Kilmarnock*).—It is the fault of either your bookseller, or of his London agent, for it is published *every* Thursday. No. 21 appeared on the 18th, and No. 22 will appear on the 25th. About eight more numbers will complete the work.

FLOWER SEED SOWING (*A Subscriber*).—The Petunia, Geranium, and other seeds which you enumerate, should be sown in March.

CAMELLIA (*James Carren*).—All the petals were shed.

GARDEN VASE (——).—A large, Etruscan-shaped Vase, stone-coloured, is capable of being made very handsome on a lawn. We prefer it surrounded by, and filled, with flowers. Examples may be seen in the Crystal Palace Gardens.

NAME OF FERN—SPECIES OF DAHLIA (*W. B. Frognal*).—Your Fern is the Scale Fern, *Ceterach officinarum*. Can any of our readers say where our correspondent can obtain either of the following old Dahlias —*D. crocata*, *D. lutea*, *D. coccinea*, and the Anemone-flower Dahlia?

NAMES OF PLANTS (*J. P., Boroughbridge*).—Your plant is the early-flowering Dogwood, commonly known as the Cornel Cherry, *Cornus mascula*. It is the more striking, because it is seldom seen now-a-days. It is one of the earliest of our shrubs, and very pretty, generally flowering about the beginning of February. It bears handsome berries, which were formerly used for tarts. Its wood is particularly hard. "Made into wedges," says Evelyn, "it will last like iron." (*C. G. R.*).—Your Fern is *Lastræa dilatata*. Small fronds of it. (*M. N.*).—Your plant is the *Sparmannia Africana*. A plant not very commonly to be seen, except in botanical collections, beautiful as it is. (*W. M.*).—*Linum trigynum*, or Three-styled Flax. At page 198, of our thirteenth volume, it is noticed, but spelt *tigrinum*, by mistake.

NAMES OF MOSSES (*Moss Rose*).—1. *Hypnum denticulatum*. 2. *Mnium undulatum*. 3. *Hypnum proliferum*. 4. *Hypnum squarrosum* (chiefly). 5. *Hypnum denticulatum*, mixed with others.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

FEBRUARY 22nd and 23rd. SOUTH-EAST HANTS. *Sec.*, Mr. James James, Fareham. Entries close February 10th.

FEBRUARY 25th, 26th, and 27th. HEREFORD. *Sec.*, Mr. Thomas Birch, Hereford.

JUNE 2nd, 3rd, and 4th. BATH AND WEST OF ENGLAND. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

POULTRY PRIZES AND PRICES.

REDEEMING promises, made long since, we turn our attention to Poultry Shows, now that the season is over; and it is the proper time, because many Committees are thinking of the lists for 1858.

It is so many years since such Shows were instituted, that they can no longer be treated as ephemeral things: they are not only established, but their proportions increase every year, and now it is desired to make them permanent. To accomplish this, they must be made not only self-supporting, but should always leave sufficient balance to neutralise the effect of bad weather, or any one of the many causes that may influence the public attendance. It is most desirable that lists may be so made and arranged, that a falling off in visitors shall not of necessity cause a loss to the projectors: the greatest portion of the burden of the expenses should be borne by the exhibitors, because the profit goes to them: it must be recollected, that the prize takers are not the only persons benefited; many, who seldom take a prize, always sell a pen, and return real winners from every Show. While the value of the prizes, offered for competition, has been multiplied by four, and in some cases by five, the entry money has on the other hand remained the same, or been but little increased. Taking also from the early days of Shows, we shall find that the value of the fowls shown in every class has increased enormously; although it ebbs and flows, and subject to the same laws as more important things, would appear to be in greatest danger of a fall when it has attained its greatest height: still, either the average of a number of years, or the present actual value of any breed, will show a great increase, caused entirely by Exhibitions. Take Cochins—they have made £50, but any good and successful pen will readily make £10. Dorkings—how many are sold at Birmingham at from £2 10*s*. to £6 each; some have made £25 each. Spanish—there was a time when 12*s*. formed the price of a capital Spanish fowl, some have since made from £50 to £80 each; but the fortunate claimant of a good pen at ten guineas, or a really good single cock at £5, is envied now by every one. Polands—how often do the prize pens change owners, at ten guineas. Game—ten guineas is a moderate price, and

the single cock at the Crystal Palace was claimed for that sum. It would be tedious to go through the list of all the different breeds, but the same result will be found everywhere. Who does not admire the beautiful Game Bantams; yet, had there been no Shows, we should not have had them. When we say that the burden should fall principally on the exhibitor, we think the foregoing facts satisfactorily prove that, if he desires to follow his hobby without loss, the way to do it is to support Shows liberally.

The institution of the single Game Cock class at Liverpool has caused much reflection among all interested in Exhibitions, and the proposition is now freely mooted, that those classes should have the greatest amount of prizes offered to them who contribute most to the support of the Show. The most numerous everywhere are the Dorking, Spanish, and Game. Unless the new class for colour at Liverpool should be continued, the Dorkings will not require the numerous classes common to other breeds; and the consequence in many places will be, that a breed contributing an eighth of the entries will only have the same amount of prize money offered as some little class, where the competitors will be barely numerous enough to provide prize takers. The same may be said of the Spanish. The different varieties of the Game fowls improve their position, inasmuch as they multiply the prizes offered for them. There is no doubt that different places require different prize lists; because where a Show is dependent principally on local support, and a certain breed is in force there, all encouragement should be given to it: it will not only produce entries, but it will bring visitors. We do not, therefore, wish to infer that one rule may be laid down for all, but at the request of many of our readers we start the question—Cannot the prizes offered for competition be so altered, as to give the largest amount to the most numerous classes? It will remain to be settled, whether the number or the amount of the prizes shall be altered, but we must think the present arrangements anomalous: one breed will contribute one hundred entries (say at 6*s*. each), £30; prizes offered, £21: another sends twenty-five entries, £7 10*s*.; and from the divisions of colour will have £25 allotted as prize money.

GOLDEN MOONIES AT PRESTON.

In despair I appeal to all amateurs, breeders, and exhibitors of Golden Moonies, for information as to the points of the cock.

During several years I have studied this variety, raised hosts of chickens, and purchased at the highest prices specimens, which I have believed to possess the points which would recommend them as candidates for honours, success flattering me that my selections were made with judgment.

At the late Liverpool Show I exhibited, in the class of Single Cocks, a young bird, bred from the finest fowls of the best known and purest strains, and possessing the following points:—A mooned breast, well-defined bars on the wings, the wing coverts properly spangled at the points, the hackle a green black through the shafts of the feathers and fringed with a brilliant golden red, the saddle a rich maroon, the ground colour perfectly uniform of the brightest copper tint, and the earlobe as white as snow; indeed, the only fault which has been alleged against him by breeders, whose opinion I have asked, is that his comb is rather large. Such as I have described him, he recommended himself to the Judges' good opinion, and won the Cup; at Preston, however, he had to strike his colours to a bird which, at the former Show, was not considered worthy of a commendation; and must be faithfully described, in order to obtain an opinion of the respective merits of the two fowls. His breast (with the exception of streaks of red of no definite form) is black, his bars are very heavy (more so than has ever been seen in a Mooney Cock), his hackle is very dark (the lower feathers being black), his saddle the darkest maroon, his earlobe large and white, and his comb crooked with a deep cavity in the top.

What puzzles me still more, and makes the future of my favourite variety so very uncertain, is that in the class where a cock and two hens were shown, the cock in the pen to which the Silver Cup was awarded (Mr. Chune's) had a very crooked comb, breast almost black, and earlobes far from white, whereas the cock in the third prize pen had a breast as beautifully laced as that of a Sebright Bantam.

I sincerely hope that some kind and experienced friend of the Moonies will give me the information I seek, as my case is really pitiable. I have a number of beautiful fowls, but am prevented exhibiting them at Wellington, not knowing what to show.

The exhibitors of Game fowls have pleaded hard, and obtained separate Judges: might not the exhibitors of Hamburghs with great propriety request, that the prizes be awarded in future by persons, at least, cognizant of the points of merit, and able to distinguish one sub-variety from another? —W. C. Worrall, 6, *Lower Castle-street, Liverpool.*

[Some of our readers will require to be informed, that "Golden Mooney" is the north-country name for the Golden-spangled Hamburgh.

As to whether the Judges were right or wrong in their decision, now called in question, we can give no opinion; but it strikes us that our correspondent says nothing about the condition of his birds: condition, if very superior, ought to outweigh many minor short-comings. However, if the Judges choose either to defend their awards, or to give any explanation, our columns are open to them; but do not let them consider, that we advise them to do so; on the contrary, we think that a Judge creates a bad precedent who descends into a public arena, to defend his awards. No one will act as Judge, if called upon to write in defence of his decisions; yet every Judge would have to do so, if the practice be sanctioned; for rarely does an Exhibition occur, without some loser at it writing to us complaining of the injustice he has suffered.—Ed.]

PERCHES.

In reply to your correspondent, who asks for advice concerning Perches, I will answer his question—first, as to the style of Perches; and then, as to the height it is desirable to keep them from the floor.

I have frequently seen it recommended to use lengths of scaffold poles, split in two; but I cannot see the reason for splitting them, unless it be to make *one* into *two*: in my houses they are placed up whole, not less than four inches in diameter, and I find the fowls always get to the largest end. They do not want to hold on by one leg all night, as some people imagine; but rest their body on it, as "An Inquirer" will soon find, if he visits their roosts at night.

As to the height it is desirable to place Perches from the ground, there are two objections to fixing them high. First, because fowl houses are seldom made sufficiently large to enable the birds to make that long inclined flight, so necessary for a heavy bird when descending. Second, because we all know that impure air rises; consequently, it must be purer near the ground. "An Inquirer" says, "Study their natural inclinations as far as practicable;" and provided his roosts are sufficiently large, I see no reason why they should not be within two feet of the roof; but mine are not more than three feet from the floor, and my birds never attempt to fly higher when once used to them, although they are Hamburgh fowls.—E. D. B.

SOUTH-EAST HANTS POULTRY SHOW.

This was held at Fareham yesterday, and to-day: there were 200 pens. Mr. Tegetmeier acted as Judge.

Spanish.—First, H. Hutson, Runcton House, Chichester. Second, P. P. Cother, Salisbury. *Birds of* 1857.—First, J. R. Rodbard, Aldwick Court, Langford, near Bristol. Second, C. E. Coleridge, Eton College, Windsor.

Dorkings (Coloured).—First, C. Smith, Durnford, near Salisbury. Second ,S. Lewry, Ashington Common, near Steyning. Highly Commended, C. Dorrien, Ashdean Tower, near Chichester. *Birds of* 1857. —First, Mrs. General Frederick, Shawford House, Winchester. Second, C. Smith, Durnford, near Salisbury. Highly Commended, G. Chadwin, Tollard Royal, Salisbury. Commended, Mrs. Pettat, Ashe Rectory, Micheldever. (A very good class.)

Dorkings (White).—First, C. James, Fareham. Second, Capt. Beardmore, Uplands, Fareham. *Birds of* 1857.—First, Capt. Beardmore, Uplands, Fareham. Second, C. Dorrien, Ashdean Tower, near Chichester. Highly Commended, R. James, Wallington, Fareham.

Cochin-China (Coloured).—First Prize, H. Loe, 39, High Street, Win-

chester (Buff). Commended, P. A. Jones, High Street, Fulham (Buff). *Birds of* 1857.—First, J. R. Rodbard, Aldwick Court, Langford, near Bristol (Buff). Second, H. Loe, 39, High Street, Winchester (Buff). Highly Commended, P. H. Jones, High Street, Fulham (Buff); J. Vaux, Barfield Lodge, Ryde. (A very good class.)

Cochin-China (White and Black).—First, A. Peters, the Priory, Fratton, Portsmouth. Second, H. Loe, 39, High Street, Winchester (White). *Birds of* 1857.—First and Second, A. Peters, Fratton, Portsmouth. Commended, H. Loe, 39, High Street, Winchester.

Game Fowl (Black, Black-breasted Reds, and other Reds).—First, J. R. Rodbard, Aldwick Court, Langford, Bristol (Brown red). Second, T. P. Mew, Cowes, Isle of Wight (Black-breasted). Highly Commended, —Nugent, Southsea, Portsmouth (Black-breasted). *Birds of* 1857.—First, J. J. Fox, Devizes (Black red). Second, R. James, Wallington, Fareham (Black-breasted).

Game Fowl (Any other colour).—First, C. James, Fareham. Second, R. James, Wallington, Fareham. Highly Commended, T. P. Mew, Cowes, Isle of Wight; J. J. Fox, Devizes (Duckwing). *Birds of* 1857.—First, R. James, Wallington, Fareham (Duckwing), Second, T. P. Mew, Cowes, Isle of Wight.

Hamburgh (Golden-spangled).—First Prize, R. James, Wallington, Fareham. *Birds of* 1857.—First, C. E. Coleridge, Eton College, Windsor. Second, R. James, Fareham.

Hamburgh (Silver-spangled).—First Prize, G. Chadwin, Tollard Royal, Salisbury. *Birds of* 1857.—First, J. Newick, Hinton St. George, Ilminster. Second, P. P. Cother, Salisbury. Highly Commended, Mrs. Pettat, Ashe Rectory, Micheldever.

Hamburgh (Golden-pencilled).—First, T. P. Mew, Cowes, Isle of Wight. Second, R. James, Fareham. *Birds of* 1857.—First, G. S. Sainsbury, Rowde, near Devizes. Second, R. James, Fareham. Highly Commended, Mrs. Pettat, Ashe Rectory, Micheldever. Commended, J. J. Fox, Devizes.

Hamburgh (Silver-pencilled).—First, R. James, Fareham. Second, T. P. Mew, Cowes. *Birds of* 1857.—First, R. James, Wallington, Fareham. Second, J. Duncan, Fareham.

Polands (Black, with White Crests).—First, G. Ray, Ivy Cottage, Lyndhurst. Second, T. P. Edwards, Lyndhurst. *Birds of* 1857.—First and Second, T. P. Edwards, Lyndhurst.

Polands (Golden).—First, Mrs. Pettat, Ashe Rectory, Micheldever. Second, P. H. Jones, High Street, Fulham. Commended, J. James, Fareham. *Birds of* 1857.—First, Mrs. Pettat, Ashe Rectory, Micheldever. Second, Mrs. General Frederick, Shawford House, Winchester.

Polands (Silver).—First, J. J. Fox, Devizes. Second, T. P. Edwards, Lyndhurst, (various). Commended, P. H. Jones, High-street, Fulham. *Birds of* 1857.—First, Mrs. Pettat, Ashe Rectory. Second, P. H. Jones, High Street, Fulham.

Malays.—First and Second, C. Ballance, 5, Mount Terrace, Taunton. Highly Commended, Miss Lewis, Martyr Worthy, Winchester; J. J. Fox, Devizes. (An exceedingly good class.)

Brahmas.—First, C. Dain, High Street, Southampton. Second, R. H. Mullins, Farlington House, near Havant.

Bantams (Gold-laced).—First, Miss Bridges, Bridge Cottage, Croydon. Second, Mrs. A. G. Brooke, Chelmsford, Essex. Highly Commended, J. J. Fox, Devizes.

Bantams (Silver-laced).—First, T. P. Mew, Cowes. Second, Mrs. Pettat, Ashe Rectory, Micheldever. Commended, J. J. Fox, Devives.

Bantams (Any other variety).—First, T. P. Mew, Cowes (White). Second, R. James, Wallington, Fareham (Black). Highly Commended, T. P. Mew, Cowes (Black); J. Duncan, Fareham (White). Commended, T. Moore, Fareham (Black). (Black Bantams exceedingly good.)

Fowls (Of any other distinct breed).—Prize, Mrs. St. John, Oakley, Basingstoke (Silkies). Prize, C. Coles, Fareham (Andalusian). Prize, G. Creed, Boarhunt, near Fareham (Indian Game). Highly Commended, Mrs. St. John, Oakley, Basingstoke (Sultans); C. Dorrien, Ashdean Tower, near Chichester (White Guinea Fowl); Mrs. General Frederick, Shawford House, Winchester (Silkies).

Geese (Of any breed).—First Prize, T. P. Edwards, Lyndhurst.

Ducks (Aylesbury).—First, R. James, Wallington, Fareham. Second, C. James, Fareham. Highly Commended, J. James, Fareham.

Ducks (Rouen).—First, J. R. Rodbard, Aldwick Court, Langford, Bristol. Second, R. James, Wallington, Fareham. Highly Commended, C. Dorrien, Ashdean Tower, near Chichester; T. Keable, Rowde Field, Devizes.

Ducks (Any other Variety).—First, R. James, Wallington, Fareham (Buenos Ayres). Second, Captain Beardmore, Uplands, Fareham (Buenos Ayres).

Turkeys.—First, J. James, Fareham (Cambridge).

ULVERSTON POULTRY SHOW.

(*From a Correspondent.*)

The second annual Exhibition of this Society was held on the 10th and 11th instant. The pens were arranged in the Victoria Concert Hall, in two rows, and numbered upwards of 260.

The *Game* took precedence, and were, when a few pens were singled out, somewhat difficult to decide upon. This noble class of birds was well represented both in number and quality. It may be said by some that they are too fine and too small; but on handling them an old "cocker" soon finds out his mistake—they do not carry that exuberance of feather which is thought by many to be a great point of beauty in the Game cock, but are short in their hackle and other feathers, yet exceedingly fine and close; and a big bird is found in little room, possessing all the "fighting points" necessarily required in this pretty but pugnacious bird.

Taking the Exhibition as a whole, with its general management, it reflected the highest credit upon the Committee, when it is remembered that it is only the second year of their experience in such matters.

The Judge, Mr. Challoner, of Chesterfield, we understand, showed the greatest patience in coming to his decisions, and we have not heard of one complaint as to the awards.

For the *Siugle Game Cock* prize there were forty-seven entries, which included the names of the winners of the great prizes at Liverpool, Preston, and other noted places. These birds, however, were here obliged to succumb to Mr. Woods, of Osberton, Worksop.

In *Game* (*Black-breasted and other Reds*) there were many good pens, and several very inferior; and we should not omit to notice two or three pens "trimmed" to such an extent that they had made their fowls look remarkably ridiculous. Mr. Woods again carried off the cup in this class.

In *Game Chickens* the competition was exceedingly close; and Mr. Moss, in this class, worthily sustained the reputation he has gained as an exhibitor of Game.

We must not omit to mention two pens (not for competition) sent by H. W. Askew, Esq., of Conishead Priory. These beautiful little birds were the admiration of all. The handsome manner in which they were marked, and their rich plumage, exceeded anything, we think, that the most proficient artist's pencil could produce. The one was the *Summer Duck* from South America, and the other the Chinese *Mandarin*.

Spanish.—Cup, Miss Hyde, Moss Cottage, Ashton-under-Lyne. Second, J. Dixon, Bradford. Highly Commended, T. Kendal, Hindpool, Barrow; T. Robinson, the Gill, Ulverston. Commended, J. Mashiter, Ulverston; S. Burn, East Terrace, Whitby.

Dorking (any colour).—Cup, J. Robinson, Vale House, Garstang. Second, Rev. G. Hustler, Appleton, Tadcaster. Highly Commended, S. Burn, East Terrace, Whitby; G. C. Whitwell, Tolson Hall, Kendal.

Game (Black-breasted and other Reds).—Cup, R. Woods, Osberton, Worksop. Second, T. Robinson, the Gill, Ulverston. Highly Commended, F. Atkinson, Lord's Plain, Levens, Westmoreland; E. Wells, Kendal; J. Poole, Hawkshead; R. Sargencson, 16, Tabley Street, Liverpool. Commended, R. Gelderd, Soutergate, Ulverston; W. F. D. Dickinson, Ulverston.

Game (White and Piles).—First, F. Atkinson. Second, E. Wells, Kendal. Highly Commended, T. Kendal, Hindpool. Commended, W. Newby, Lawrence House, Levens, Westmoreland. (A very good class.)

Game (any other variety).—First, A. Sutherland, St. James's Row, Burnley. Second, W. Wilkinson. Highly Commended, J. Kendal, jun., Gleaston. Commended, T. Taylor, Ulverston; T. Robinson, Ulverston.

Cochin-China (any colour).—First, R. Sargencson, Liverpool. Second, J. Robinson, Vale House, Garstang. Commended, J. F. Crossfield, Arnside.

Hamburgh (Golden-pencilled).—First, Messrs. Carter and Gaulter, Poulton-le-Fylde. Second, J. Dixon, Bradford. Highly Commended, Messrs. Bird and Beldon, West Parade, Bradford. Commended, J. Poole, Hawkshead.

Hamburgh (Golden-spangled).—First, J. Dixon, Bradford. Second, W. W. Ruttlidge, Storth End, near Kendal. Highly Commended, E. Boswell, Oxford; J. Bamforth, Holmfirth, Huddersfield; T. Robinson, Ulverston. Commended, J. Chadwick, Stock Park.

Hamburgh (Silver-pencilled).—Cup, J. Dixon, Bradford. Second, W. W. Ruttlidge, Storth End, near Kendal. Highly Commended, H. Sutton, Holker. Commended, Messrs. Bird and Beldon, West Parade, Bradford.

Hamburgh (Silver-spangled).—First, J. Robinson, Vale House, near Garstang. Second, J. Mitchell, Hipperholme, near Halifax. Highly Commended, Messrs. Bird and Beldon, Bradford.

Poland (any colour).—First, J. Dixon, Bradford. Second, Messrs. Bird and Beldon, Bradford. Highly Commended, J. Robinson, Vale House, near Garstang; J. Bamforth, Holmfirth, Huddersfield.

Any other Distinct Breed.—First, J. Dixon, Bradford.

Bantams (any colour).—First, J. Machell. Second, R. Sargencson, 16, Tabley Street, Liverpool. Highly Commended, T. Kendal, Hindpool. Commended, J. Dixon, Bradford.

Geese.—First, T. Robinson, Ulverston. Second, W. Bownass, Bowness.

Ducks (White Aylesbury).—First, J. Abbot, Kendal. Second, B. Wilkinson, Shelf, near Halifax.

Ducks (Rouen).—First, T. Kendal. Second, J. Dixon, Bradford. Highly Commended, T. Kendal, Hindpool; Messrs. J. and J. Robinson, the Gill, Ulverston; T. Robinson, the Gill, Ulverston. Commended, F. Atkinson, Lord's Plain, Levens; W. F. D. Dickinson.

Ducks (any other variety).—First, J. Dixon, Bradford. Second, S. Burn, East Terrace, Whitby. Highly Commended, W. Bownass, Bowness; Messrs. J. and J. Robinson, the Gill, Ulverston.

Turkeys.—First, Mrs. Teasdale. Second, J. Crow, Leece. Highly Commended, Mrs. Teasdale, Gascow, Ulverston.

EXTRA PRIZES.

Game Cocks.—Cup, R. Woods, Osberton, Worksop. Cup, Second, J. Hindson, Barton House, Everton, Liverpool. Third, A. Sutherland, St. James's Row, Burnley. Highly Commended, J. Boulton, Ulverston; R. Woods; G. W. Moss, the Beach, Liverpool; W. Brocklebank, Southergate, Ulverston; R. Gelderd, Ulverston; J. Hindson; T. Shaw, Kirkham. Commended, W. Dickinson, Lyth, near Kendal; W. Kitchin, Ulverston.

Game Chickens.—Cup, G. W. Moss, the Beach, Liverpool. Highly Commended, W. Rogers, Park Cottage, Dalton; R. Woods, Osberton, Worksop; E. Wells, Kendal; T. Robinson, Ulverston. Commended, J. Kendal, jun., Gleaston; W. Dickinson, Lyth, near Kendal; W. Salthouse, Preston.

Spanish Chickens.—Cup, J. Dixon, Bradford. Highly Commended, Miss Hyde, Moss Cottage, Ashton-under-Lyne. Commended, T. Robinson, the Gill, Ulverston.

WELLINGTON (SALOP) POULTRY SHOW.

Held on the 16th, 17th, and 18th inst. Judge, E. Hewitt, Esq., Sparkbrook, near Birmingham. There were 230 pens, and the fowls might be of any age in each class.

Spanish.—First and Second, J. Busst, Walsall. Third, J. K. Fowler, Prebendal Farm, Aylesbury.

Dorkings (any colour).—First, W. Bromley, Smithfield, Birmingham. Second, Capt. W. Hornby, R.N, Knowsley Cottage, Prescot. Third, Right Hon. Lord Berwick, Cronkill, near Shreswbury. Commended, — Parkinson, Knapthorp, Newark, Nottinghamshire; J. Smith, Henley-in-Arden, Warwick. (A good class.)

Game (Black-breasted and other Reds).—First, G. W. Moss, the Beach, Liverpool. Second, S. T. Smith, Ironbridge, Salop. Third, W. Dawson, Selly Oak, near Birmingham. Highly Commended, W. Broughall, Bargates, Leominster, Herefordshire; Right Hon. Lord Berwick, Cronkill, near Shrewsbury.

Game (Black and Brassy-winged, except Greys).—First, S. T. Smith, Ironbridge. Second, W. Dawson, Selly Oak, Birmingham. Third, Rev. T. E. Abraham, Bickerstaffe, Ormskirk. Commended, R. Hawkins, Eyton, Wellington, Salop.

Game (Duckwings, and other Greys and Blues).—First, G. W. Moss, the Beach, Liverpool. Second, W. Anslow, Eyton, Wellington, Salop. Third, T. W. Jones, Portland Cottage, Wellington, Salop. Highly Commended, J. H. Slaney, Wellington, Salop. Commended, Right Hon. Lord Berwick, Cronkill, near Shrewsbury; E. W. Hazelwood, Bridgnorth. (A superior class).

Game (Any other variety).—First, F. Sabin, Bull Street, Birmingham (White). Second, R. W. Fryer, Hinton Road, Hereford (Piles). Third, Hon. W. W. Vernon, Wolsley Hall, Rugeley (White). Commended, W. Fowler, Acton Reynald, Salop (White).

Hamburghs (Golden-pencilled).—First and Second, Miss S. Cotes, Bicton, Salop. Third, J. B. Chune, Coalbrookdale. Commended, Mrs. Parkinson, Knapthorp, Newark, Nottinghamshire; J. Lowe, Whitmore House, near Birmingham; C. R. Titterton, Birmingham; Rev. T. G. M. Luckock, Upper Berwick House, Salop.

Hamburghs (Golden-spangled).—First and Second, J. B. Chune, Coalbrookdale. Third, Right Hon. Lord Berwick, Cronkill, near Shrewsbury.

Hamburghs (Silver-pencilled).—First, G. Griffiths, St. Swithen Street, Worcester. Second, Mrs. Parkinson, Knapthorp, Newark, Nottinghamshire. Third, H. Corbett, Aston Hall, Shiffnal, Salop. Highly Commended, W. Wright, West Bank, Widnes, Lancashire; E. H. Grey, Quarry Bank, Handforth, near Manchester. Commended, W. Endall, Beaudesert Farm, Henley-in-Arden.

Hamburghs (Silver-spangled).—First, J. B. Chune, Coalbrookdale. Second, Mrs. T. W. Jones, Portland Cottage, Wellington. Third, Messrs. Bird and Beldon, West Parade, Bradford. Highly Commended, R. W. Fryer, Hinton Road, Hereford; R. Teebay, Fulwood, near Preston.

Polands (Gold or Silver-spangled).—First, J. F. Greenall, Grappenhall Hall, Cheshire (Silver). Second, J. F. Greenall, Grappenhall Hall, Cheshire (Golden). Third, R. W. Fryer, Hinton Road, Hereford.

Polands (Any other variety).—First and Third, G. Ray, Ivy Cottage, Minestead, Lyndhurst, Hampshire (Black). Second, J. F. Greenhall, Grappenhall Hall, Cheshire (White), Highly Commended, R. W. Fryer, Hinton Road, Hereford (Buff).

Cochin-China (Cinnamon and Buff).—First and Second, J. Cattell, 26, Worcester Street, Birmingham. Third, J. K. Fowler, Prebendal Farm, Aylesbury. Highly Commended, T. Stretch, Marsh Lane, Bootle, Liverpool; Right Hon. Lord Berwick, Cronkill, near Shrewsbury. Commended, H. Tomlinson, Balsall Heath Road, Birmingham. (A meritorious class.)

Cochin-China (Any other variety).—First, J. Cattell, 26, Worcester Street, Birmingham. Second, Mrs. E. Herbert, Powick, Worcestershire. Third, R. Chase, Moseley Road, Birmingham. Highly Commended, D. S. Moore, Teddesley House, Walsall (Partridge). Commended, C. R. Titterton, Birmingham (White). (This class throughout good.)

Any other Variety of Fowl.—First, R. W. Fryer, Hinton Road, Hereford (Black Hamburghs). Second, T. Taylor, Burleigh Villa, Salop (Emu or Negroes). Third, R. Teebay, Fulwood, near Preston (Brahma Pootra). Highly Commended, W. Endall, Beaudesert Farm, Henley-in-Arden (Andalusian); Mrs. Watkin, Freedom Cottage, Walkley, near Sheffield (Sultans). Commended, H. Churchill, Gloucester (White Dorking).

Bantams (Game).—First and Second, Right Hon. Lord Berwick, Cronkill, new Shrewsbury. Very Highly Commended, Miss S. Perkins, the Cottage, Sutton Coldfield, near Birmingham. (One of the best classes in the Exhibition.)

Bantams (Any other variety).—First, G. Finch, St. Nichol's Street, Worcester (Black). Second, R. W. Fryer, Hinton Road, Herefordshire (Golden or Sebright). Highly Commended, J. Edwards, Mapplebeck, Moseley Road, Birmingham (White Bantams). Commended, J. J. Horton, 233, Bradford Street, Birmingham (Black Bantam); R. Chase, Birmingham (Silver Lace).

Ducks (Aylesbury).—First, J. Weston, Aylesbury, Bucks. Second, Rev. J. Hill, the Citadel, Hawkestone, Salop. Highly Commended, B. Cotton, Crewe, Cheshire. Commended, T. Groucock, Bolas House, Shropshire.

Ducks (Rouen). — First, H. Evett, Admaston Hall, Wellington, Salop. Second, Mrs. C. Brown, Withington, near Shrewsbury.

Game Cocks (Of any age or colour).—First and Second, G. W. Moss, the Beach, Liverpool. Third, A. Sutherland, Burnley, Lancashire. Fourth, Hon. W. W. Vernon, Wolsley Hall, Rugeley (Brown Red). Highly Commended, A. H. Emery, Bath Street, Birmingham; Capt. W. Hornby, R.N., Knowsley Cottage, Prescot, Lancashire; J. Lowe, Whitmore House, near Birmingham; J. Hooper, Kinnersley, Salop; W. Dawson, Selly Oak, Birmingham. Commended, Right Hon. Lord Berwick, Cronkill, near Shrewsbury (Black Red); W. Wright, West Bank, Widnes, Lancashire (Brown Red). (A better class of Game Cocks never exhibited.)

The Judge declared that never, in his experience, had he met with a Poultry Show, where the competition was so generally good.

OUR LETTER BOX.

Cinnamon Canaries (*Mrs. Chinery*).—Cinnamon Canaries are rare. If Pied-Cinnamon will suffice, write to Mr. Nicholson, West Street, Fareham, Hants.

Canaries Breeding in Winter.—"My servant has a pair of Canaries which have just reared two young ones, and the hen has laid again. The hen is one which I bought in the spring of last year, when she was put up with a mate, and seemed inclined to build. I then transferred them to an aviary, where her eggs were all addled. Finding her of no use, I gave her to my servant to try, as his hen was good for nothing. She then mated, and went to nest, and has continued on to this 10th day of February, as I have described. Will the Belgium birds endure an open aviary after March 1."—Rusticus A. B.

[We believe it is a rare occurrence for young Canaries to be bred so early. We know that Mr. Nicholson tried the experiment, and succeeded many times in getting nests of eggs; but they always proved bad. He once had a nest with five eggs on Christmas-day. March is too early for Belgium Canaries to be put in an open aviary, unless in a very warm situation; but it chiefly depends upon where the birds have been kept through the winter, as the change from a *warm* room to the open air, will, most likely, throw them into moult.]

Deception at Preston Poultry Show (*Mary McDuff*).—The upper part of the tail-feather has evidently been sown with black thread to the lower part of the feather. If you will send us, as you propose, the name of the seller and purchaser, and state the variety of fowl, we will publish the whole in our next number.

Roosting-place, &c. (*E. Q.*).—The roosting-place is best divided from the laying department, not only for cleanliness sake, but to avoid needless disturbance of the sitting hens. Coops with boarded bottoms would be best in winter, for broods of chickens. Pea and beanmeal are very fattening, and not good for breeding-stock generally. A little in winter might be good for them. For fattening fowls, we are not certain that such meal would not impart a strong flavour to the flesh. The more perfect the uniformity, in a pen of Exhibition fowls, the better. Even the combs of Spanish hens had better hang down all on the same side; but this is not essential.

LONDON MARKETS.—February 22nd.

COVENT GARDEN.

We have but little alteration to report since our last, having an abundant supply of all things in season, comprising *Sea-kale*, *Asparagus*, *French Beans*, *Rhubarb*, and framed *Potatoes*, prices of which are moderate; quality excellent. Heavy consignments of *Broccoli*, from the West of England, have reached us this week. From the Continent, we receive the usual sorts of *Salading*, and some *Asparagus*, with several hundred packages of various sorts of *Apples*, chiefly for culinary purposes. Good English *Pines* are now worth from 6*s*. to 10*s*. per lb.; and hothouse *Grapes* from 8*s*. to 12*s*. per lb. *Potato* trade heavy; large importations arrive daily.

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WEEKLY CALENDAR.

D M	D W	MARCH 2—8, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
2	Tu	Acacia armata.	30.449—30.437	50—41	E.	.01	46 af 6	39 af 5	9 af 10	17	12 23	61
3	W	Acacia incarnata.	30.299—30.328	50—28	E.	—	43	41	10 27	18	12 10	62
4	Th	Acacia rotundifolia.	30.180—30.076	50—23	S.W.	—	41	43	11 43	19	11 57	63
5	F	Acacia spectibilis.	30.354—30.090	49—38	W.	—	39	45	morn.	20	11 43	64
6	S	Acacia Drummondii.	30.016—29.973	54—30	W.	—	37	46	0 59	21	11 29	65
7	Sun	3 Sunday in Lent.	29.922—29.809	53—33	W.	—	35	48	2 10	☾	11 15	66
8	M	Brachysema latifolia.	29.556—29.470	47—28	W.	.11	33	50	3 14	23	11 0	67

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 48.9° and 32.5°, respectively. The greatest heat, 60°, occurred on the 3rd, in 1846; and the lowest cold, 13°, on the 5th, in 1845. During the period 141 days were fine, and on 76 rain fell.

CRYSTAL PALACE.—February 22.

The Crystal Palace is now as gay with Camellias, and forced flowers, as the private conservatory of a duchess ought to be, when next to her drawing-room. The Horticultural Society, with all its honours, has thus lost the credit of infusing a taste for the rare luxury of forced flowers to the nation.

While all the large families in the country put as much stress on their forced flowers, in winter and spring, as they put on their flower gardens in summer, the trade of forced flowers would not pay in London. There was no blood in London to lead the fashion in winter flowers, and without a practice is really in the fashion, it is of very little commercial value. The Crystal Palace steps into the first rank of fashion, and before we can well settle the succession into the second and third generation, in the Horticultural Society, which ought to be at the head of affairs *florifanciful*, the Palace people will have the nation soaked, as it were, in the highest branches and styles of British gardening. All fancies, ideas, and philosophy, may be likened to a warm bath, for by soaking a nation in a warm bath, each individual will imbibe as much of what is in the bath, as his or her pores and powers of absorption are capable of drawing from the fountain; and, as every one's powers are not alike, or ever likely to become so, we shall always have persons of the different degrees of comparison in each rank of life—some good, some better, and some best. First, second, and third prizes; first, second, and third-rate notions, abilities, taste, and judgment. Also, first, second, and third degrees in cant, and in criticism; and all this coming of that plunge in the warm bath of mixed elements.

The highest branches of any art, are those branches which are the most difficult to reach up to—the top branches, and the leaders of the great side branches; and if that be so, as we all know it is, forcing flowers and flower gardening are, most certainly, the farthest up, and farthest off, and most difficult to reach to, of all the branches of the horticultural tree in these islands, and, yet, to this very day, our Horticultural Society has never aspired high enough to reach but to a few of the lowest of the side branches, whilst those new comers at Sydenham made a bold start, at once, and reached all that could be seen, or foreseen, in their age and generation. Some parts of which I shall now endeavour to explain, according to the degree which nature, and the "force of circumstances," have allowed me to reach to.

The first requisite, for forcing flowers, is a good forcing house. All the experience and care in the world will never overcome the difficulties of an imperfect forcing house. After seeing the effect of the forced flowers at the Crystal Palace, and after telling the authorities there, that my plan was to help them to spread the taste, they had here displayed, as widely as the circulation of The Cottage Gardener, I was invited to a private view of all their secrets and appliances. I saw everything, above, below, behind, and all round. There are worlds, and systems of worlds, about the Crystal Palace, which the inhabitants of our world, I mean our gardening world, have not yet dreamed of. They never buy a forced, or unforced plant for the decoration of the Crystal Palace. All you see there, is the work of the establishment, and there is not a plant there in bloom, but what might be sent to an Exhibition. The arrangement of the pots, plants, and colours, and the "getting up," are as duly considered, and as effectually carried out, as if the whole was intended solely for the use of Queen Victoria.

We may congratulate the whole country on the fact, that a knowledge of these things did not spread, among our people, until the taste of our age was ripe on the point. Thousands, and tens of thousands, will have seen flowers "put together" for the first time, at the Crystal Palace; and as the first idea, like first love, is, and always was, the strongest, the impression will never die out from those who can be impressed with this kind of beauty. Therefore, as the spring opens, all these thousands, and the rest of us, should flock to the Crystal Palace, to study and see the effect of decoration under difficulties, before the summer comes, when we shall be overwhelmed with flowers, and when the difficulty will be, to know how to find room enough for them.

The forcing house for supplying the Crystal Palace is of the very best, and of the very simplest kind. It is 100 feet long; ranges nearly south and north; is twelve feet wide, outside measure, and eight feet high in the centre over the path, which runs along the middle of the house. The path is three feet wide, and there is a flat shelf of open woodwork on each side of the path. The shelves being as high as a man's hip bone. So that neither male, or female, can sweep off any of the pots, on either side, when walking up the centre. "A monstrous comfort, is it not?"

The outside walls are a little higher than the shelves, and a span-roof completes the house. There is a four-inch flow and return pipe under each shelf, and high enough from the ground, to allow the bottom ventilation *to enter below them*. "Cold currents" are thus avoided, as the cold air must come in contact with the warm pipes, before getting to the plants. The house is in two divisions; the one next the boiler being the hottest, and the contrivance to confine the circulation to one end, when that is desirable, is most simple. A stop-cock is in the top pipe, and a pipe communicating between the top and bottom pipes, just behind the stop-cock, and between that cock and the boiler.

In the end, which is the forcing division at present, the night heat is just 50° to 55°, but they allow a play of 40° degrees between the night and day temperatures; not with fire-heat, however, but by not giving air till the sun heats up to 90°, or, with a little top air, to 100°.

This is coming close to Mr. Kidd, and Mr. Latter's way of airing Cucumbers in winter.

The old rule of "one to six" recurs to one on hearing the niceties of ventilation; that is, for one inch of top air, give six inches at the bottom ventilators, and never depart from that rule, in winter and spring forcing, until you are forced yourself out of it, by sun heat rising beyond the heat which the plant, or plants, you are forcing can endure.

Hyacinths, Tulips, Narcissuses, Crocuses, Azaleas, Hydrangeas, Pinks, Cloves, *Cytisus ramosus*, *Acacia armata*, seedling Cinerarias, and China Primroses, *Deutzia gracilis*, *Dielytra spectabilis*, and all such established favourities, force from February without any bottom heat, or plunging, and will not suffer *in moist sun heat* up to 90° for two or three hours daily, provided the night air, or heat, is as low as 50° in mild weather, and 55° when the frost is sharp.

No plants were ever forced better than those I saw then in the Palace, and that was the treatment they received.

The Hyacinths are the best of the old cheap kinds, they are potted in large 48-pots, or small 32's, in good holding yellow loam; and the bulbs are entirely on the surface of the soil, the leaves of all the offsets they make are pinched off, as soon and as often as they can be laid hold on; but the bottom, or bulb part of the offset, is never touched; the wound which the separation from the old bulb would cause, might kill, or very much injure, the old bulb in the dead of winter. The old *Waterloo* Hyacinth throws up four flower stems from one good bulb, by this treatment; sometimes three, and very seldom less than two, as may be seen round the basin of the crystal fountain all the spring. The *Waterloo* is the highest coloured one there—a crimson in fact—far better in colour than we generally see it; but the immense body of fresh mild air, inclosed by the Crystal Palace, brings out colours, and the tint of leaves, far beyond any method within our knowledge. Most of those very old Camellias, and Rhododendrons, were half dead, or three parts burnt up at the roots, three years ago, when they were planted here; and many of them would have died outright, in small houses, in a few years; but what splendid specimens they are making already!

Groot Voorst is the next Hyacinth after *Waterloo*. It is a deep blush thus early. The best double whites are *Alamode* and *Anna Maria;* and the best single whites are *Grande Vainqueur* and *Grande Blanche Imperiale;* best single blue, *Emicus*, a deep blue; *Nimrod*, light blue, one of the very best; *Porcelain Sceptre*, pale blue; and *Orondates*, all exquisite blues, which may now be seen and judged in the Crystal Palace. Also, two kinds of pale yellow: of the early forcers of that colour *La Pluie d'Or* is the best; and *Alida Jacoba*, nearly as good a yellow; and both yellows force remarkably well, and early. For a real Peach-coloured Hyacinth, *Acteur* is the best, and the greatest favourite here, as may be seen from the quantities of it in the vases all over the place.

Tulips.—They force none but double Tulips, and they do not consider the single or double *Van Thols* worth potting, much less worth forcing. They are really aristocratic in all their ideas of forcing flowers, and the kinds to force—only they do not like to pay dear for their whistle—for they keep to the good old things, and buy them every year in very large quantities. The splendid large yellow and red double Tulip, in all the vases, is the old *Tournesol*. The best of that colour, *Rex Rubrorum*, deep blood red, and wonderfully big for February; and *Imperatrum Rubrum*, or simply *Imperator*, is almost an improvement on *Rex Rubrorum; Gloria Solis*, red and yellow, nearly scarlet and yellow; *Duke of York*, alias *Duc Kaiser*, white and red, but not quite so early as the rest; and *Marriage de ma Fille*, also white and red feathered, one of the oldest favourites of the writer. Three, four, or five, of these double Tulips to be put into one pot, according to the way the pots are to be used when the Tulips are in bloom.

In making up baskets, or vases, in the drawing-room, say just now, do you not find the bother of having all the pots of one size? Hence the reason for using two or three different sized pots for Tulips, and other spring bulbs: three Tulips for small 48-pots, four for large 48-pots, and five Tulips in small 32's. I have seen five great Hyacinths in one pot, a large upright 24; also, four, and three, and two, in smaller sizes, but here, at the Crystal Palace, they put their Hyacinths singly in pots, in order to suit their arrangements of them, when in bloom; and I venture to say, that spring flowers were never better arranged, for real effect, than they are, at this moment, in the vases, and marble basins round the crystal fountain, at the Crystal Palace.

Soliel d'Or and *Grand Monarque* are the two kinds of Narcissuses now in bloom there—a yellow and a white kind.

Now, let us just see, on paper, how they are arranged, which is but like having the "bill of fare," instead of the dinner, after all is said. Well, the "bill of fare" stands thus:—There are four marble vases, in four marble basins, on each side of the crystal fountain; they are in match pairs across the water, and the four at the west-end reflect, or correspond, with the four at the east-end—that is the foundation of the system. The first pair of vases at the extreme west, have an *Auracaria excelsa*, or Norfolk Island Pine, about thirty inches high, in the centre of each; the pots being hid by moss. Then three pots of *Dielytra spectabilis*, at equal distances, "all round"; three pots of Hyacinths, ditto; three of double Tulips, ditto; four of Crocuses, ditto; and four of China Primroses; and all the pots hid entirely in moss, rising a little from the edge of the vase to the centre Conifer. The green moss balances the white glare of the marble, and the effect is marvellously good, at a little distance. The bottom, or basin, is filled with four circular rows of pots, not in moss, and to counteract the glare of the marble, and to bring out more prominently the beauty of the flowers, the first row of pots next the pedestal, or centre, is of fine-foliaged plants, all of one size, and one style of growth, without flowers. The kinds are little Epacris and heath-like plants, twelve to fifteen inches high. The next row is all of different kinds of Hyacinths, already mentioned. The third row is of flowering and fine-leaved plants, one of each "turn about," consisting of double Tulips, Hyacinths, Dielytras, Azaleas, and Primulas. And the outside row is of Crocuses, Lilies of the Valley, very dwarf Tulips, and here and there a fine-leaved plant, just sufficient to balance flowers, leaves, and white marble. Without the fine-leaved plants these spring bulbs, in a mass, would deaden the sight, in the face of so much marble, and the sun playing on the water all round. While in a drawing-room, with warm colours, mirrors, and gilding, or any other style, the "furnishing" with flowers would need to be done, perhaps, differently; but, in all cases, a certain amount of green leaves, in addition to green moss, would heighten the effect of the flowers, by contrast.

The second pair of vases are thus set off—a match of two *Araucaria Bidwillii*, from thirty to thirty-six inches high, to match the two *excelsas*, in the first pair, one in the centre of each vase, and the pots hid. Round these are Dielytras, mixed Hyacinths, yellow and white Narcissuses, double Tulips, and China Primroses, arranged as in the first pair. The basins below

are similarly arranged; that is one half of the design, round the water. The four matches on the east side of the centre, begin with two *Araucaria Bidwillii*, and end with two *A. excelsa*, for co[illegible] the four vases; and here, *Cytisus ramosus*, Azaleas, and *Alba multiflora* Geranium, and little Mandarin or Otaheite Orange-trees, in bloom, are added to the Tulips, Hyacinths, and other bulbs and flowering-plants, as in the first half.

In addition to these, the left-hand-side of the way, all round the Crystal Fountain basin, is lined with flowering duplicates of all that are in the vases, and in the Ceramic Court, where Minton and Co. display the marvels of their art; there are several of their vases full of flowers, from the forcing house of the Crystal Palace. One large oval Majolica vase, fit for the Queen's drawing-room, is managed, as most drawing-room pot flowers should be, and a hint from this Court may be useful, just now. All the most costly drawing-room vases have no hole, or holes, in the bottom, to let off the drainage from the flower-pots, for fear of soiling carpets. To get over this, the bottom half of this Majolica vase is stuffed with green moss, the pots are plunged in the moss, and the top is then mossed with the finest and *shortest* moss, which looks as smooth as green velvet. In warm rooms the pots must have water, but the quantity of bottom moss "takes it up" like a sponge, for ten days, or more, or less, according to the time, temperature, and the temptations to water. After that, the vase is taken out of the room of a morning, into the passage, the pots are taken out, put on the oilcloth, and the moss is squeezed, after the manner of wringing in the laundry; the moss seeds go in the surplus water, and the moss itself is green, damp, and comfortable for the pots and plants a second, and a third, and many times, for nobody knows for how long a time; doing away with the expense of purchasing moss, so difficult in towns, and with the uncomfortable apprehension, in the country, of getting in horrid creatures and crawling things from the woods. The Messrs. Minton and Co. should be consulted on this very practice, both in London, and at Sydenham.

Now, for the next summer move of these vases. The tops shall be in brilliants, next summer, four pair of bush-like Fuchsias, each four feet in diameter, and coming up to the centre of the bush. These eight Fuchsias were just "done potting" that day, in strong zinc vase-shaped basins, and the basins were placed in the stove end of the Palace, where the temperature at night is from 50° to 55°. Strange to say, the Fuchsia is among the worst plants which gardeners find "to do" in lobbies, corridors, staircases, and even warm rooms; but in the large volume of air in the Crystal Palace, the Fuchsias are among the most accommodating they have. No plants do as well as they, and the Camellia in the garden of the Alhambra Court. But I have so much to say, on the fitness of so many things here, that I fear to break the ice till I have more room to spare. D. Beaton.

Offspring of the Pink Eye Potato.—In one of your late Cottage Gardener's, we have, I believe the true history of the *Fluke Kidney*. The writer, however, begs to state, that a few years previous to the appearance of this valuable Potato in the markets about Manchester and Liverpool, he grew, among other kinds, a large flat Potato, which he designated the *Ready Boiler*. This, too, was produced from the seed of the Cheshire *Pink Eye*, growing in a field attached to his late residence near Prescot, and was so like the so-called *Fluke*, as to lead to what appears to have been a wrong conclusion, that the *Fluke* and the *Ready Boiler*, were identical.—Adam Keys, *Tring*.

SURFACE-DRESSING AND MULCHING FRUIT TREES.

Some forty to fifty years since, it was a regular custom to dig, [illegible] sidered, that when the surface looked smart and fresh, there was, of course, good gardening beneath! As for minding the destruction of a net-work of those minute root organs, termed fibres; why, it came not into consideration, so long as the big, black roots, which shot downwards, were safe. In these times, sensible people not only forbear to dig over the roots, but actually set a decoy over them, to tempt these fibres upwards, and to secure them when obtained. I need scarcely say, that the two practices are the very antipodes of each other. I here invite the particular attention of those, who would practise rational gardening, to the very opposite nature of the two operations: surely no thinking person can pass them by as trifles.

And, perhaps, I may be permitted to show the necessary consequences of each operation respectively. There can exist no doubt of the following facts:—1st. Deep roots are in a cooler medium, during the growing period, than surface roots. 2nd. They have a tendency to produce wood of a less fruitful character than surface fibres.

It is pretty well known that the air we breathe, and the soil we tread on, are perpetually interchanging heat with each other; and that, on each returning spring, the earth has to be warmed anew, principally by borrowing from the atmosphere, to be repaid most scrupulously. If this be admitted, it is evident that the surface of the soil must first be heated, and thus warmth is transmitted gradually downwards. This being the case, it becomes necessary to inquire, whether the ordinary heat of the soil, without solar influences, would be congenial to fruit trees. It is, surely, needless to answer this. If, then, roots enjoy a considerable degree of warmth, why not shape our operations and practice accordingly? I have years since paid close attention to the results, arising from deep digging over the roots of fruit trees; and have even known what might appear anomalous results accruing therefrom. The following are the usual phenomena, presented by a pertinacious course of practice of the kind. The trees becomes barren, their side branches fall gradually away, causing them to assume a lean and gawky appearance; they are apt to produce much watery, or immature, spray from portions of the tree which had lost the true, or original branches; and that spray generally springs forth at, or about, Midsummer, and too late to be of any service to the tree. The terminal growths are apt to be become long jointed, and, in many cases, the points of the shoots die, or become diseased. Moss is apt to prevail on the stems, if the trees be of some age; and, in general, trees thus circumstanced, are a prey to numerous insects, caterpillars, &c. These are a few of the evils; but, in addition, it will be found, that what may be termed the principal young wood, is produced late, and, by consequence, continues growing late, and thereby is generally immature; and caterpillars, and other enemies, seem particularly attached to the first-made wood of such trees in the spring. I have seen Apple orchards, or gardens, within a few miles of where I write, thus attacked annually, until they became utterly worthless, the owners still hoping on; but some of these orchards have of late been rooted up. They were, for years, annually dug and cropped, almost close to the stems, with Potatoes; and, what is worse than all, on the "lazy bed," or raised bed system, in which case the soil has to be excavated a foot in depth, to soil the Potatoes with.

But now let us, for a moment, cast our eyes on trees undug, and well-rooted in a proper soil, with abund-

ance of fibres nestling just under the surface. It is almost needless to look for moss on the stems of trees thus situated, their bark generally shines with a polish of a very different character. Their early-made shoots progress with rapidity at the very period (June) when the ill-used trees receive their first snubbing with blight. But their young shoots are compact and short-pointed, presenting, altogether, a very different appearance from the attenuated character of the young wood of the other class. Much less interior, or watery, spray will be produced; indeed, with trees well managed on the platform system, scarcely any. The trees having freely and heartily made their first growth, generally begin to solidify about the period when the ill-used trees are beginning to ramble (August); and, if any second growth is made, it is short, firm, and soon ended. As for dying points, there will not be much trouble concerning them, if the surface soil is genial and undug; unless tap roots have been permitted, when the trees will be, in part, liable to the grievances complained of in the other class.

It is almost needless to add here, a description of the respective results: in the one case, dwarf, compact, comfortable-looking, and fruitful trees; in the other, gawky and barren skeletons, a discredit to the gardens. And, how could it be otherwise? It must be obvious to any one, on the slightest consideration, that when the surface-roots of any tree are annually mutilated, for eight or nine inches in depth, that what roots the tree has remaining, must be several weeks later in receiving the necessary amount of ground heat—produced by the return of summer—than trees whose fibres are just beneath the surface. The effect is, as before stated, the well-cared-for tree makes its early growth with the adjunct of a lively root action; thus bidding defiance to the extreme ravages of insect foes. The tree, dug over, is impelled to growth in the shoots, by the heated atmosphere, weeks before the deep roots are put in active motion; here is, surely, some difference in conditions! The early growths of the latter are almost sure to suffer in some way; they are in little better position than a cut down stump, thrown across a brook; such as we all have seen many a time, attempting to shoot as springs return. The first growths being foiled, we arrive, probably at, or near Midsummer, when the sun has warmed the soil to a greater depth, and the ill-fated tree, clinging with tenacity to life, makes another bid for an annual growth. But, as before observed, our autumns are not long enough, and hot enough, to mature this growth, and, at last, a morbid condition is the consequence, and the cultivator cuts the tree down in despair.

I have stated this much, as paving the way to a few remarks on the immense benefits arising from a system of coaxing surface or shallow roots. This is called by various names — as surfacing, mulching, top-dressing, &c. But here let us distinguish a little. These various names should be reduced to two processes, which are, indeed, somewhat distinct, viz., mulching and surface-dressing. *Mulching*, in the practical gardener's acceptation, means applying half-rotten manure over a tree's roots, to prevent them becoming dry. It is intended to obviate the necessity for the watering-pot. *Surface-dressing* is specially intended to induce, and preserve, surface roots.

Now, there are more ways than one of performing these operations. As for mulching, to preserve moisture, that needs little description; it seems specially intended to avert solar influences, which we invite, in these times, to tender fruits; and is, indeed, confined chiefly to trees of coarse, or hardy habits, and which depend not so much on ground heat. With regard to surfacing, we must remember two things: first, that the material should have a capacity for receiving and transmitting warmth; and secondly, that it may prove, ultimately, an abiding medium, adapted to the needs of the roots thereby induced. I find nothing superior to chopped loamy turf and vegetable matter, such as half-decayed tree leaves; these, in about equal quantities, furnish an excellent material. If the loam is very adhesive, I mix some charred rubbish with it. Indeed, I prefer the latter course, as it makes the whole darker; and, doubtless, assists in the absorption of heat—a material point with tender trees.

Now, what I would recommend is a surface-dressing annually to choice fruits, although it be only an inch, or a little more.

If some persons, who understand these things, think that annual transplanting is not too expensive a process, why, surely it cannot be supposed too much to apply a little dressing, on the same principle as we manure a piece of Cabbage or Celery ground, which, of course, is an annual affair. It is most strange that people should so neglect their tender fruits. There seems to have been a general impression that a fruit tree, once planted, should fight its own way; and, indeed, with ordinary coarse-growing orchard trees, such is obliged be the case. But this does not prove that an annual attention, as much as is awarded to any ordinary crop, will not prove profitable. Talk of profit, what so unprofitable as coarse fruit trees, unfruitful, and smothering other crops, from year to year? the proprietor feeding on delusive hopes, instead of Apples, Pears, &c. Here lie the reasons why so many fruit trees are unsatisfactory; but let it not be, for a moment, supposed that I blame practical gardeners, as a body, for either ignorance or apathy in the affair. This is not so much a question of manures, as of labour; and hundreds of gardeners, of the less fortunate class, pass by trees thus situated, simply because, whilst attempting to push one matter to its utmost, something else must be set aside. In many cases, an extra labourer, for awhile, would set all right. And, indeed, to aim at the highest perfection in the numerous things, which pertain to modern gardening, is no mean task to mark out; and necessarily involves expence in one shape or other. But bad gardening is no better than bad farming; and there is nothing like carrying out the object to its full extent, although such may limit the desires in other respects.

But, to return to the surface-dressing for a moment. There is a time, as well as a mode, of applying it. I here advise that a few main points be kept well in view. In the first place, I urge that late in spring is the most eligible period. I would have this surface-dressing retain surface-moisture, when it can be secured. This, however, pre-supposes that the trees are on sound platforms, or otherwise so situated, as that no stagnation can possibly occur. It is of the utmost importance, with tender kinds of fruits, to permit the solar rays, up to the very end of May, to enter freely. Applications of this kind should, therefore, be withheld until the object be accomplished. And it is of importance that this covering should succeed on the heels of a liberal spring rain, provided the preceding period has been somewhat dry, which is frequently the case. Surface-dressing, in my opinion, is, therefore, best applied in the last week of May, or the first week in June; but as to weather, we must, of course, leave a margin on its behalf.

We may now consider the thickness most eligible. It may have been observed, that if the compost applied is one-half vegetable soil, such will diminish by decay into a very small compass; therefore, the loam alone may be counted on as permanent depth. If

annual dressings are applied, I consider two inches sufficient; if biennial, three inches may be applied. Care should be taken, during the succeeding summer, not to cut away, by any operation, the surface fibres, which are sure to be encouraged thereby. If any weeds appear, hand-weeding may be resorted to.

Here let me point to the evil influence of tap, or forked, roots. If trees are carefully transplanted, and root pruned, whilst young, these roots will seldom occur; but if such has been neglected, care must be taken, at the last planting, to cut away all coarse and fibrous roots having a downward tendency.

I before adverted to what gardeners term mulching, and may here offer a few remarks. I observed, that it was practised chiefly with the more ordinary kinds of fruit trees; such, indeed, as are perfectly at home in our climate. As for mulching heavily, as is the practice with some; spreading raw manure, nearly six inches in depth, over the roots, nothing can be worse, even as regards hardy fruits. This kind of manure is exceedingly sluggish, in conducting the solar warmth to the cold soil beneath. Let any one observe heaps of such manure wheeled out to the kitchen garden, in a frozen condition, and it will be found, that the interior will remain frozen for a long time after the soil is thawed. For newly-planted fruit trees, which require to be mulched, I would strongly recommend half-decayed tree leaves, as being warmer in character than the manure. Of course, the mulching of dung need not be applied for the sake of its manurial qualities, since opportunity was afforded of putting rich soil, if needed, to their roots in the act of planting. In fact, the only way in which this raw mulching is justifiable is, I think, when, after much planting, the operator feels assured he shall not be able to spare labour to water his subjects, in cases of drought through the summer.

The surface-dressing here recommended is of much value to all trained fruit trees; and, in course of decomposition, becomes filled with fibres. The spade is, of course, banished from this dressing, and as it solidifies, it becomes perfectly united to the body of the soil.

Whether, then, cultivators choose, or find it convenient, to use surface-dressing annually, biennially, or as the maggot bites, it is a principle of high importance in the culture of tender fruits; and I cannot recommend it too strongly to their notice.

R. Errington.

WANT OF SUCCESS IN TANK HEATING.

"A house, under my care, has been used for growing Melons and Cucumbers; but, having other pits and frames for that purpose, I wish to convert them into pits for Pines; and, as you have so many querists, regarding heating, &c., I venture to intrude on your time, by asking for some directions, as to the best way of altering the above, as regards efficiency and economy. The tank, when first put up, was found to hold too much water; and the bottom was covered with a row of bricks, laid in cement. Then there was too much heat at one end, and another row was put in loosely, to contract the water-way; still the end, next the boiler, became too hot, before the water reached the further end; and this, added to the valves in the connecting pipes getting out of order, rendered the whole nearly useless. The pipes, under the path, were not sufficient for top heat, and the tank could not supply the deficiency; so my predecessor had a flue carried through two of the divisions: this gives a great heat, but would be useless for Pines, as it is in the wrong place. Now, I wish to state what I should like to do; and ask your opinion, if I am not right in my *notions*. First, I would lower the tank six inches, to give more head-room; and, as it is close to the front wall, I would bring it nearer the path, about the breadth of the wall that supports the side of it—say, nine inches; this would leave room for a flow and return along the front, and then, I fancy, there would be heat enough. I was thinking of taking a flow-pipe, along the tank, to the extreme end, and letting the water return openly in the tank to the boiler; and only to have one stop, instead of three, to work two of the divisions together; thus there would not be so much complication."—Tyro.

I intended answering the above in a few words, but I found that I could not render the subject so clear as I wished to do; I, therefore, resolved to give the matter more space, and treat it so as to be interesting to more readers than the inquirer. To avoid the trouble, and the delay, of giving a plan, the following details are necessary, not only to the understanding of the subject, but also that others may be induced to contribute their quota, to help our inquirer out of his difficulties. The house so heated is about 65 feet in length, 9½ feet high at the back, 4 feet high in front, and seemingly about 10 feet in width. This length is divided, by three glass divisions, into four equal parts; and in each of these divisions is an iron tank, 15 feet in length, 6 feet in width, and 8½ inches deep. These four tanks are, of course, placed exactly on the same level: they are supported by brick piers, so that the top of the tank is within a foot or so of the top of the front wall, against which the side of the tank abuts, while the back of the tank abuts against a 9-inch brick wall, the pathway being behind that wall; and beneath that pathway a flow and return pipe of three inches diameter, for top heat. The fire-place is at one end, having a powerful cylindrical boiler: from that boiler proceeds the flow and return, beneath the pathway, and which goes all the length without stop or valve. From the same boiler, a flow-pipe discharges into one side of the first tank, and a return-pipe is fixed on the opposite side. Each tank is divided down the centre by 4½-inch brickwork, except a space left by a valve, at the farther end, for the water to circulate round, so that the first division may be heated by itself. Two openings, one for the flow, the other for the return, each 18 inches long by 3 inches wide on the square, connect the first tank with the second, the second with the third, and the third with the fourth; each of these being furnished also with valves: thus, when all are at work, all these valves in the connecting pipes will be open; all the valves on the middle brick divisions, with the exception of No. 4, or that farthest from the fire, will be shut; and the water would be expected to circulate to the extreme on one side, and then return to the boiler on the other side. Counting from the boiler, one, two, or three, or all four, divisions of the tank may thus be worked at pleasure.

It is desirable to turn these houses, previously used for Melons and Cucumbers, into pineries; but then the tanks are too high, and as yet have never worked efficiently. The tank was found to hold too much water, and, therefore, the bottom was covered with a row of bricks, laid in cement; and as there was still too much heat at one end, another row was put in loosely, to contract the water way; but still the water next the boiler got too hot, before it was warmed at the farther end: the valves getting out of order (being iron), the whole was next to useless, as the pipes in the pathway were not sufficient for top heat. A flue went through a part, and that gave great heat; but that could not, it is supposed, be made available for Pines.

The proposed course is to lower the tank six inches, to give more head room; move it on to the wall, separating it now from the pathway, so as to give room in front of it for a flow and return pipe; also to take a flow-pipe along the whole length of the tanks from the

furnace, and discharge there, allowing the water to come back to the boiler; and, to lessen the complication, make two divisions instead of four. Opinion is asked, keeping efficiency and economy in view.

Perhaps our inquirer, who puts his case with great clearness and ability, and who has only left out one thing of importance—namely, the covering of the tank, whether iron, slate, &c.—may recollect several articles, some time ago, on "Pipes *versus* Tanks," or "Tanks *versus* Pipes." The advocates of pipes could hardly have met with a more thorough confirmation of their views, than these inquiries supply, were they inclined to take advantage of their weak points, which would scarcely be handsome; as, in reality, more depends upon want of attention to some trifles, than to any thing inherently wrong in tank heating, in itself considered.

I am not surprised at the request, connected with bearing economy in mind; for, unless under extremely favourable circumstances, there could not be much economy in placing these huge iron tanks in such diminutive houses. Why, instead of wanting such lots of extra pipes and flues, these tanks, of themselves, should have been sufficient for doing double the work.

I have, several times, adverted to the throwing away of material in making deep tanks, in general. With one, 8½ inches deep, the bottom would be cool, whilst the top was warm; and there would be a strong tendency to an under current backwards, instead of flowing onwards to a second and third division, when that was required. In the present case, however, when the sides of the tank were of a conducting material, as iron, and heat was wanted for the atmosphere of the house, provided the sides were there, I should not quarrel with their depth, as the whole of these sides, as well as the bottom, would radiate heat, if they were first heated themselves.

Two errors seem to have been committed; not so much the having a deep tank, as in supposing that the tank must be filled. Just calculate the immense number of gallons you must heat, in 60 feet of tank by 6 feet wide, and 8½ inches deep; and that by a boiler at one end: it puts one in mind of heating a mill dam. I say this more freely, as our inquirer had nothing to do with its erection. Then, to remedy this evil, when felt, the water was curtailed, by placing a layer of bricks all along the bottom; and, as they are poor conductors, in comparison with iron, you thus got little heat, from that part of the sides, and the whole of the undersides. Thirdly, loose bricks were put in, to lessen the quantity of water, and, at the same time, impede the circulation, there being a tendency to something like a revolution round every brick. I sometime ago mentioned working very large pipes, less than half full of water; and, consequently, having but half of the water to heat. As every body knows that heat rises, it does seem a little surprising, that the owners of these fine iron tanks never thought of emptying them, to within three or four inches of their bottom: three would be quite ample; and, from these three inches, or even less, obtain a far more rapid circulation, and more heat from bottom, sides, and top, than ever they received from 8½ inches of water, or water and bricks together.

The first thing, then, to be done, is to remove all these loose bricks; and, on the supposition, that the whole of the tanks are covered with bricks in cement, leave two or three inches of water over them, fill up all the valves in the longitudinal brick divisions, except the farthest one; leave the valves between the different houses all open, put a good fire on, and then judge of the heating power. Were it not for making more work, I would advise removing every brick on the bottom of the tank, cement, and all together, leaving nothing but the longitudinal divisions. If the side valves are out of order, you may put either wood or brick in to make all secure for this trial. If the boiler is powerful enough, and the circulation is all right, the one side of the division next the boiler will be the hottest, and the other side, being something like 120 feet from the flow-pipe, will be the coldest. The bricks being removed, and this small quantity of water to heat, the bottom will be nearly as hot, and the sides and top almost as hot as the water.

Of course, this trial will be quite inoperative, if the valves in your longitudinal brick division are not in working order. If they are sufficiently tight to prevent much circulation by that mode, and still the flow to the extreme end is not rapid enough, then, before doing anything else, I would widen the connecting pipes from 3 inches on the square, to 6, 9, or even 12 inches; and then that would only be the third of the width of the division in your tank. In such tanks there is but little pressure on the water, and, therefore, the connecting spaces should be wider than in pipes.

These openings, as well as those in the longitudinal divisions, should go from *top* to *bottom* of the tank; I would have little ceremony with the iron valves; if worn out, a stout piece of wood, turning on a pivot by its centre, would answer just as well; but, if the covering of the tank was not in the way, I would fix two fillets of wood on each side of the opening, leaving an inch or so between them, and have a piece of deal of that thickness to lift up and down between them, like the sluice of a mill dam; nothing could be simpler, and no expensive plan will answer better. If the tank could be moved backwards a little, so as to get a few inches, at least, from the front wall, I am sanguine, that by these different means, you will get so much heat, that you will require no more piping. It is more than likely that you will have too much bottom heat; but part of that you can easily bring into the atmosphere, by such simple modes as have often been referred to.

Your idea of taking a flow-pipe through the tank to the extreme end is, so far, a good one; but, even then—the pipe being open at the extreme end—the end next the boiler will be the hottest; but there could be no harm in taking a pipe, or a couple of pipes, all round; though, of course, it would be expensive. Try the above simple modes first.

Circumstances may have determined the plan adopted, of having the furnace at the one end; but I should have preferred, for such a tank heating, having the furnace and the boiler in the centre, and furnished with a T flow, and a T return-pipe, one branch of each of which would go into the two centre tanks. If you want to work one, plug the other up; if two, let both be at work; the two end tanks would then be more easily heated, and the two centres would be always the hottest. If frost was merely to be excluded from divisions not at work by tank, the pipes under the pathway might be worked right and left continuously, as now. If you should find, that at present, after reducing the body of water, and making the plugs or valves all right, the water does not circulate fast enough to the farther end, then, no doubt, the shifting the boiler will be attended with advantage.

Supposing, however, that these unlooked-for conditions should take place; before you shifted the position of your boiler, there is another plan within your reach, and which would cost but a trifle in comparison. I suppose that your flow-pipes come from the the top of your boiler, and that the return-pipes enter near its bottom. I presume also that the flow and return, under the pathway, are considerably higher than the top of the boiler, and that the circulation in them is secured by a small open air pipe at the semi-

circular junction at the farther end; that part being, if anything, the highest. Under such conditions, there ought to be a rapid circulation in these three-inch pipes, and the heat at the extreme end, though not so much, will not be greatly below what it is at the boiler end. If there is not much heat there, you may rest assured that one of two things is the cause; either the pipes are too much on a level with the boiler, and raising them would neutralize that evil; or air has got into the pipes, and cannot get out, either for want of a small gas-pipe in the extreme end, or the opening getting choked up, and that pipe rising higher than the water in the tanks. If these matters are seen to, you would probably get more heat than you now do; in fact, all pipes so buried, do not at once give their full heating power to the atmosphere of the house. Well, then, supposing that on making your trial, and seeing that these matters are all right, you find that you can get a strong heat all the length of these path pipes, and that still you do not get quite as much heat as you would like in the tank farthest from the boiler, or even the third one; but, say the farthest, then all you have to do, is to borrow heat there from the pathway pipes, and, in this simple way; with a smith's bit, bore a circular hole in the flow and return pipe, say one inch in diameter, and say twelve feet from the extreme end of the pipes; into these openings fix the ends of one-inch lead pipes, and let the other ends communicate, one with the flow side, and the other with the return side of the tank. You might fix taps in these pipes, if you chose; but a wooden plug inside would answer equally well. By-the-bye, now I think of it, one pipe from the flow-pipe in the pathway would do, if you still kept up the common circulation of the tanks with each other. If these pipes on the pathway heat well, you would be surprised to find how soon the heat, rising quickly through an inch pipe, would heat your tank.

Other measures might be adopted, but these are those that seem to us to combine efficiency, and economy, without making much trouble, or changes with present arrangements.

The obtaining more head room would be necessary for Pines in front, but several things must be thought of, before sinking the tank; and when about it, you might just as well sink it a foot or eighteen inches as six inches, as you can always raise your bed above it to what height you please. If the tanks are wrought iron, and not very heavy, the lowering would be attended with little risk; but, if cast iron, and they have stood where they are for ten years, and are at all rusty, there would be considerable risk in moving them. Unless for young Pines, we do not see you could do much as the tanks are, for we do not know how much space you have above them to the glass. Taking all things into consideration, the nicety with which such tanks must be fixed, I believe there would, ultimately, be less trouble in raising the two walls of the house a foot, or fifteen inches in height; and, if the addition in front was glass, it would be all the better. Even if the front wall was raised one foot, without touching the back one, you would have all that more room, by sacrificing some five inches of length of rafter. The sinking inside would make the least show of work, and there would be no danger, if the tank was wrought iron, but more care would be required otherwise. If you decide on doing so, I would have the back wall at the path, so as to make that likewise a pier for the tank support. Could you thus bring the tank more into the middle of the house, instead of the front side, you would at once obtain more head-room and convenience, whilst the spaces beneath will be useful for many purposes. Try the heating first. First, lower the water; if that does not do, widen the connecting sluices; if that is not sufficient, borrow from the pipes in the pathway, at least from the flow-pipe: the last resorts should be, changing the position of the boiler, or taking pipes through the tank. Had I such a system of heating to put up, and where a little heat in all the departments would be no disadvantage, instead of connecting these wide tanks as now, I would take a four-inch pipe round the whole; and that pipe to be from a foot to eighteen inches below the level of the tank. This pipe on the north side should be the flow-pipe, that on the south side the return-pipe. A pipe, from one inch and a half to two inches in diameter, should connect this flow and return pipe with each tank at pleasure; and any tank on the range could be heated, and to any desired degree, and would not at all influence its neighbour. If there is a good heat in the pipes under the pathway now, the farthest division from the boiler (if separated from the rest) might thus be heated even at present. I have thus done what has suggested itself to me, in the circumstances. I shall be glad if any better plan be adduced, and will be glad to hear of what you have done, and the results. R. Fish.

LOVE-LIES-BLEEDING, AND PRINCE'S FEATHER.

I hope you will not think me presumptuous, in still further advocating the above flowers. But, as I last year adopted the flower, nearly for the same purpose as Mr. Beaton has mentioned in his paper of February 16, I quite coincide with Mr. Beaton, in thinking, that although it is an old kind of hardy annual, yet it is one that is still worth our notice; for few equal it in figure, in graceful habit, duration of flowering, and easy culture.

One thing I find necessary. If on a border running east and west, it should be on the north side, as the heads of the flowers all incline to the south. I had it on both, as a back ribbon row, last year, and it was admired by all who saw it. As Mr. Beaton remarked, this will be much stronger if encouraged with a little manure, and new loam put into a small trench. I had my plants from fourteen to fifteen inches apart; but, I must say, I rather went astray from Nature's habits, a course I generally incline to aid; but there is excuse sometimes for fancies. When the plants were well established, I pruned off all the side branches, leaving them like little standards, with the view of having conspicuous large heads. Some of the main flowers were three feet long, and broad in proportion. After that treatment, they threw off a mass of side flowers all round from the top, and drooped down gracefully; and, as you observe, they will stand even a portion of frost without injury.

I have some thoughts, in another season, to plant some beds with a portion of plants, treated as I have described above, *thinly*, and to have some dwarf variety of flower, of a different shade, below. I lifted a few of the said plants, reduced them to a small compass, and potted them into small pots, introduced some of the different colours of them among the plants in greenhouse-stages, and for decoration among the plants in entrance-hall; I found them to answer admirably, and last exceedingly long.

Moreover, I find they have no equal, say for setting off cut flowers in a vase, or for the centre of a dinner table. Use the medium-size flower branches, and introduce them so as to allow each head of flower to hang down separately.—Wm. Melville, *Dalmeney Park*.

The Death of the Water Lily.—I am always in hope of seeing one of these beautiful Lilies in the act of dying; it is so lovely a flower-death—there is no pain in it. When the seed ripens in the Lily-cup, and her bloom is over, she does not cast her seeds to the winds, and fade, wither, and decay, like earth-flowers; but she slowly turns upon her pale face, and rests it upon the water, while the seeds sink in a golden shower back to the parent stem, far beneath the water. Thus they never leave their parent loch, but flower there for ever. —Erick Mackenzie.

GAS HEATING APPARATUS—FOR HOT AIR OR WATER.

The merits of gas are not sufficiently considered. We will suppose a gardener sitting down, to make a comparative estimate of heating by gas, and the ordinary coal boiler.

On the one hand he enters:

	£	s.	d.
— tons of Welsh coal, at 37*s.*	0	0	0
— tons of gas coke, at 23*s.* .	0	0	0
	£0	0	0

On the other:

	£	s.	d.
— feet of gas, at 5*s.* 5*d.* . .	0	0	0
	£0	0	0

Substracting the one from the other, he finds a balance of £0 0*s.* 0*d.* in favour of the coal system. Hence he concludes that the ordinary method is cheaper, and resolves to stick to it. Now, a fairer statement would be as follows:—

	£	s.	d.
Original cost of copper conical boiler and fixing	5	0	0
Original cost of gas boiler and ring made and fixed by ironmonger	1	10	0
At the onset a balance in favour of gas of	£3	10	0

Then we consider the practical working of each plan. Though the bare amount paid for coals will be below the gas expenditure, we have to consider wear and tear of apparatus, the mess and expense attendant on coal and coke carting, clinker removing, dust choking, fuel storing, coke breaking, sulphurising, draught regulating, stoking, night expeditionising, &c., which, by the use of gas, are altogether avoided.

It is desirable to heat with hot *air* in a *small* house; and with hot *water*, where the heat requires to be carefully, and evenly, distributed through space. The air can be kept *as moist* by one method as the other.

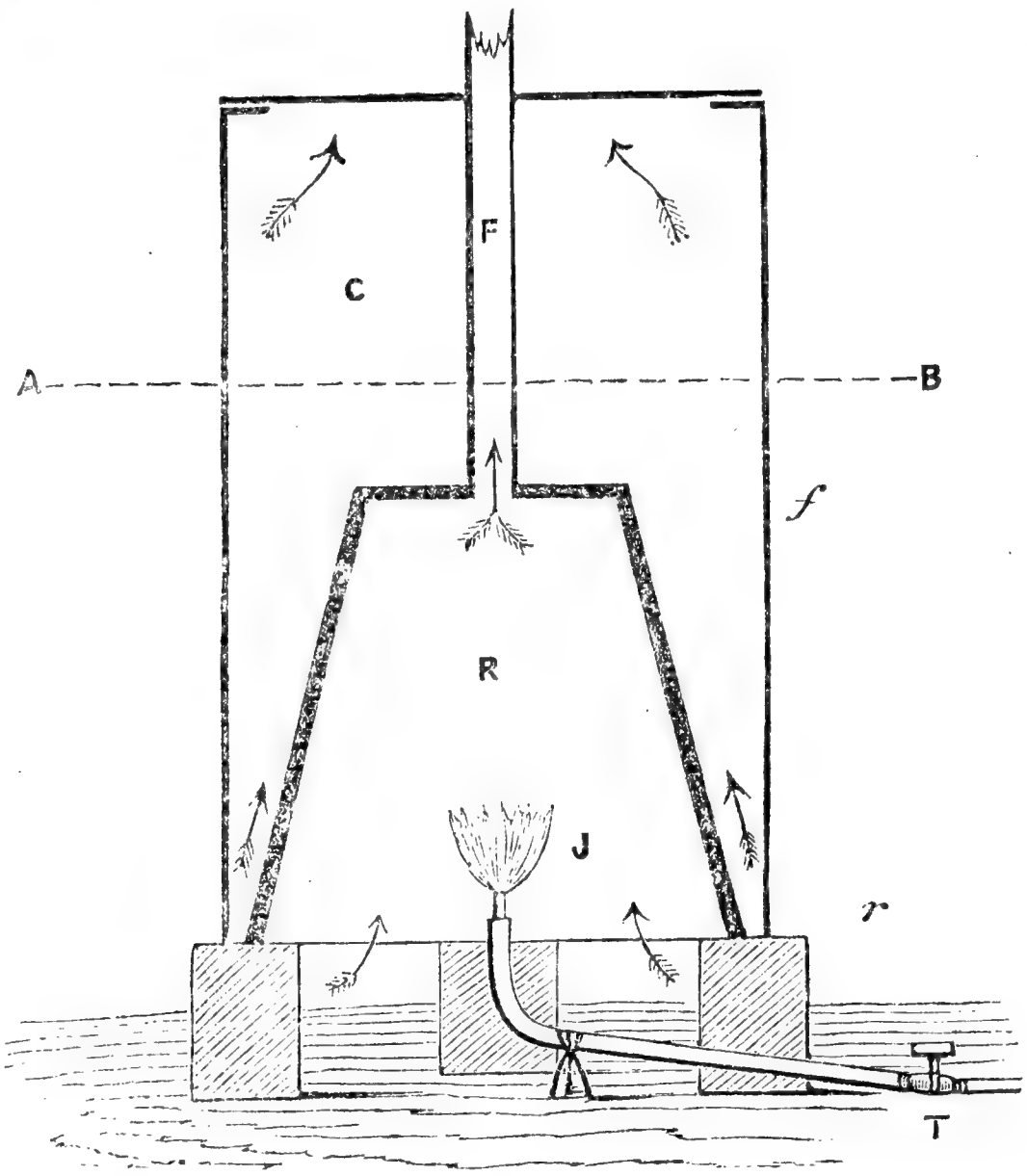
We introduce heating apparatus into our houses, in order to keep out cold, and to prevent excessive moisture in the atmosphere. Each step made in their arrangement has been an improvement. The Dutch system, with its large inconvenient hot-air pipes; the embrasure brick and triangular iron flue; the German suffocation stove; the smoke compartment scheme; the steam mania—have all fallen before the hot-water principle. "There are no buildings, however large, to which it cannot be advantageously adapted, nor any that present insurmountable difficulties in its practical application."

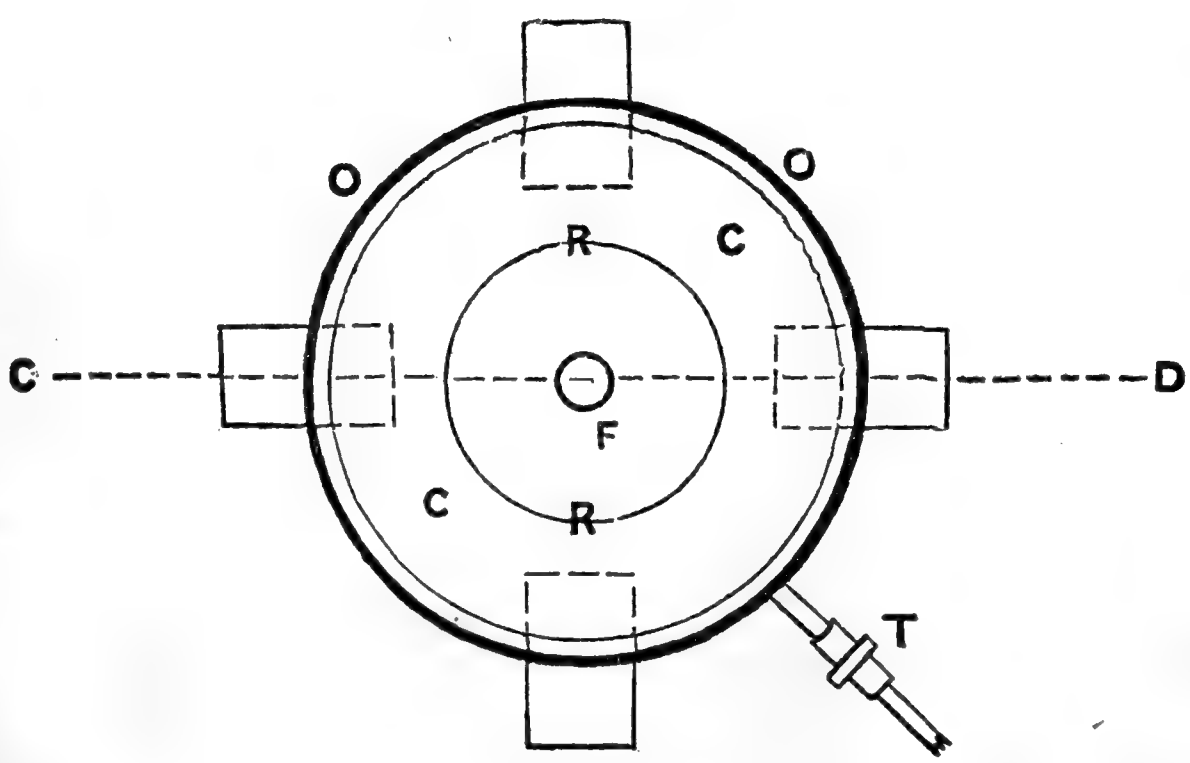
As to *details*, it is our opinion that a large proportion of water surface exposed to the heat, quick circulation and high temperature, in uniform pipes of small diameter, will yield the best results.

By the use of a gas boiler, no larger than that described, with flow and return pipes of but three quarters of an inch in diameter, the writer was enabled to maintain a high and equable degree of warmth in a school building, accommodating three hundred children, and that with *a minimum of trouble, and the greatest exactitude in working.*

Hot Air Apparatus.—Procure a cylinder of galvanised sheet iron twenty-two inches long, and fourteen inches in diameter, flanged in at one end. Also, a thirteen-inch flower-pot of good material, and a batswing gas-burner, and a sufficient length of one inch and a half zinc piping by way of flue. Having fixed the gas burner in the desired place, cover it with the inverted flower-pot, its edge fixed on four bricks. Then inclose it in the iron cylinder, its lower rim also resting on the brick supports, and firmly affix the vapour-pipe (F). A plate of perforated sheet iron covers the top, supported on the flange.

Hot Water Apparatus.—Where it is necessary to distribute the heat over large houses, a ring of copper, or iron tube, is substituted for the flower-



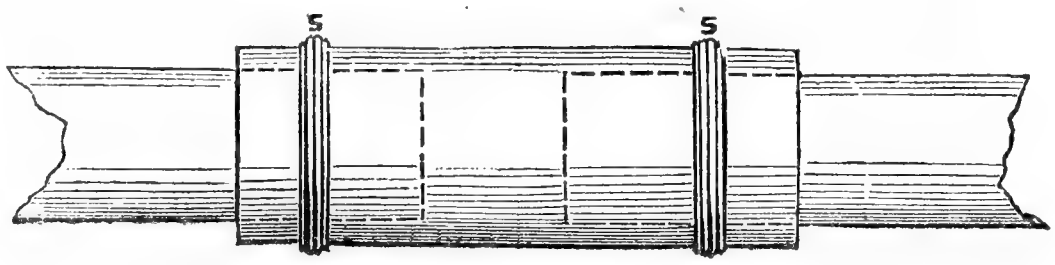


One-eighth full size.

pot, and a gas ring used, instead of the batswing burner. In this case, the upper end of the coil passes through the casing at *f*, forming the flow-pipe, the return entering an opening at *r*. The degree of heat is simply regulated by turning the tap (T). A small tin vessel, as an expansion box, is fixed at the highest part of the circulation tubes.

By the *first* of these plans, the burner consumes about five feet per hour, or 120 feet per day of twenty-four hours. At 5*s.* 5*d.* a thousand feet, the expenditure will be at the rate of 7¼*d.* per day, or a little more than a farthing an hour. The ring in connection with the hot-*water* boiler will, of course, burn a larger quantity of gas. With the aid of a common smith, a tolerably ingenious person may manufacture the first stove at a cost of 10*s.*, and the latter for a sum not exceeding £1.

For the last three years we have used India-rubber tubing alone, for jointing both hot water and gas pipes. After a severe test, it answers the purpose admirably.



Joints.—A piece of galvanised India-rubber tube, of a somewhat larger diameter than the pipes to be joined, is passed over the end of each. The vulcanised tubing is then encircled with stout string (S), at a distance of half an inch from the termination of either pipe, and tied up strongly and neatly. The junction presents an appearance, as represented in the accompanying figure. Though so simple, this is a *most effectual* joint. Taps can be inserted in a similar manner.

Now let us see how this apparatus tallies with the requisitions of our universal horticultural reference book, The Cottage Gardener's Dictionary.

"After much experience with boilers of all description, we can confidently say, the most simple is the best. The smaller the boiler and the fire-place, compatible with efficiency, the greater is the economy. We can tell the gardener also, most decidedly, that the total size of the boiler has nothing to do with that efficiency; the only point to be secured is, *that a sufficient surface of the boiler be exposed to the fire.*"*

What can be *simpler* than an iron cylinder, a flower-pot, four bricks, a pipe coil, and a perforated ring? Surely the fire-place and boiler are *small* enough; the difficulty would be to measure them at all. But the *proportionate surface exposed to the fire is great.* As for economy, when gas is reduced to 4s., as we expect it will be soon (N.B.—It should have been down to this mark long ago), there will be nothing like it. But the best thing of all is, that *it has been tried, and* NOT *found wanting.*—E. A. Copland, *Chelmsford.*

* *Cottage Gardener's Dictionary*, page 138.

THE FLUKE POTATO.

There seem but two opinions respecting the quality of the *Fluke* Potato, and they are *rather* antagonistic! viz., "first-rate" and "good-for-nothing."

Many speak of it in such high terms as to pronounce it unequalled; whilst others condemn it as decidedly the worst Potato they every grew. Now, when doctors differ, who shall decide? By which party shall we be advised? This I will leave for your readers to judge for themselves; but I will offer a few remarks respecting this Potato, in consequence of the divided opinion that still exists respecting its merits.

I have, on several occasions, heard people exclaim, "Somebody must tell lies; for one party recommends it, while another condemns it." On several occasions, also, I have witnessed different growers digging up their crops of *Flukes*, the history of which I gave a few weeks since in these columns, and have frequently asked them their opinion; which may be summed up as follows:—"Well, master," I would say, jokingly, "are they good?" The reply would be, "Ah, good for the pigs. I will never plant another *Fluke* as long as I live." Another, perhaps, would be more favourable, and say, with a smile, "They are the best croppers and boilers I ever saw in my life." On the other hand, others would raise the following objections:—"Too rank in the haulm"—"too much deformed." While the first season the complaint was, "Not one-half came up that were planted."

When the *Fluke* was first advertised, it was recommended in the following flattering terms:—"This fine variety is less liable to the disease than any other; is of excellent quality, large, and very productive." Now, has it sustained the high character thus given of it? It is certainly very productive, large, and pronounced by some unequalled in flavour. But has it escaped the disease more than any other variety? I must say, as an eye-witness, no. In some districts, it has been diseased more than other varieties; while, in other districts, it has been less subject to it than many. But, I believe, there are but few, if any, districts in which it has entirely escaped. Nevertheless, for this last point, I consider that it merits the character given to it; and it is still advertised in no less flattering terms.

For the benefit of those who may again grow the *Fluke*, I beg to say it should be borne in mind, that last season was a very unfavourable one for the cultivation of Potatoes, more especially on high-lying soils. The dryness of the early part of the summer caused the tops to lose their vitality, in consequence of which the tubers commenced to ripen their skins, and when the season changed to a continuance of wet, the newly-formed tubers were excited into growth, and formed a second lot; which accounts for so many deformed *Flukes.*

In conclusion, I will state my opinion respecting the culture and merits of the *Fluke* Potato. The *Fluke*, being rather a coarse grower, should be planted on rather poor soil. When planted on rich manured land, the tubers become deformed, the haulm exceedingly coarse; and, in consequence, warmth is not admitted to the tubers, nor light and air through the haulm. The tubers do not get thoroughly ripened; the strength of the haulm keeps up the sap until so late in the season, that the skin on the tubers merely gets set, and not properly matured. Such Potatoes cannot be expected to boil like a ball of flour, or to eat in flavour equal to a well-ripened variety. Take, for example, the *Early Oxford*, that ripens early in the autumn; or even the celebrated *York Regent*, Potatoes that ripen so very late in the autumn, or, as I before stated, merely get their skins set, but not properly matured.

The *Fluke*, planted on poor soil, new broken land, or sandy, does well, brings perfect tubers of moderate size; the haulm, being of moderate strength, dies down in sufficient time to ripen the tubers as they should be, while the quality is of the first class. The fault thus lies not in the Potato, but in the soil, or the method of cultivation. The grower of these pets, no doubt, in many instances, selected his very best piece of land; and, perhaps, over-manured it, in order to excel, by which means he overshot the mark; for while poor ground will grow *Flukes* of the first quality, over-manured land would only grow them of inferior quality.

There is as much difference in the constitution, and the culture, required in some varieties from others, as the treatment required between a donkey and a race-horse. The former would fatten on the same pasture as the latter would starve on. It should be our main study to get those varieties, and those *only*, that are adapted to our soil; for nothing (except a bad oyster) is, in my opinion, worse than a bad Potato. All you that have suitable soil, grow the *Fluke;* for, take it *all for all, it is one of the best.*—E. Bennett, *Perdiswell.*

A PLANT FOR SPRING FORCING.

Has anybody ever forced the *Hesperis matronalis?* If they have not, take up a plant or two immediately (only for experiment), go the right way about it, and you will grow a dozen next year. As to beauty—if it possessed the variety of tint that the Hyacinth does, (and I see no reason why it should not,) it would be superior in some respects. It is fragrant, has large, handsome spikes (if well grown) a foot in length, proportionate, plenty of fine foliage, is perfectly hardy, and within the reach of all. Every body has a double Rocket, and I saw one of mine with a striped petal. I have only four varieties—white, French white, lilac, and purple (sold for crimson). I suppose the Rocket is too common to be petted!—W. E.

CITRUS NOBILIS MINOR (Mandarin Orange).

How is it we so seldom see this grown to that extent it deserves? Easy of cultivation, and taking up but a small portion of room, it is just the thing for amateurs, or any one else with limited space at command; and I have no doubt that it could easily be grown in a window, if a little extra care was bestowed in keeping it thoroughly clean, sponging well frequently with tepid water. What can possibly be more charming than beholding it loaded with its miniature golden fruit, gracefully hanging on for months together? And when in bloom, the fragrance emitted almost makes one think we are enjoying the pleasure of a walk, through an orange grove, in the place of being confined within the narrow limits of a glass house. I find it to fruit well in a 24-sized pot; and what can surpass it, whether in the drawing-room of the wealthy, the sitting-room of the middle-class man, or the cottage window of the labourer?—John Edlington, *Gardener to J. H. Mc Rinnel, Esq., Winch House, Seacombe.*

SMALL AND LATE DRONES.

On a second glance at "Apiarian's" remarks on small drones, at page 167, we are inclined to think that some of them are fictitious; but, be it as it may, we shall try how they square with the nature of the bees. He begins with saying, that "Mr. Wighton has settled the question on small drones, in your number of October 13th, by confidently asserting that they are bred in drone's cells, near the edges of the combs;" and concludes with stating, that he had found the cells of working bees full of small drones. This, of course, is contrary to our assertion, and is backed by Huber—at least he states, "If I understand Huber on small drones, he means hives having young queens, whose eggs produce nothing but small drones—owing to the queen going past the proper time for fecundation." This may pass with some; but, it is, nevertheless, wrong. Indeed, it does not agree with another of "Apiarian's" statements, which we pass at present, to notice our previous one respecting Mr. Moore, of Stratford, near Manchester, who had both small workers and drones from a hive of the current season. That fact, and others bearing on this subject, must be known to "Apiarian;" for they are clearly noticed in our paper of the 13th, from which he quotes. He states, however, that his hive produced only small drones the second year; and observes—"In June, 1850, I hived a first swarm in a storifying hive: then united a second in fourteen days after. At the end of the season I took a fine box of honey, net contents twenty pounds; and left the stock forty-five pounds in three boxes full of combs." That was storifying with a vengeance. Four boxes on the top of each other, what a height the hive must have been! The boxes must be larger than the usual size—about one foot square, to hold sixty-five pounds of honey. Perhaps we may say that nearly one half of the room in the hive was occupied with combs, and bees especially; "as there were drones in it at the same time;" a thing contrary to the habits of bees. We need hardly say, that the males are destroyed before the end of the honey season.

We have heard of rare instances of drones being alive late in the autumn: but they were in weak hives shortly to perish. Also, we have known instances of a second brood of males: one was in a strong stock of the late Mr. Savage, of Swaffham, whom Mr. Cotton mentions in his book on bees; another in a bellglass, which a friend happened to have on a strong hive late in the autumn. Both belonged to bee-keepers, who knew better than to have two boxes on the top of a hive in the winter, as "Apiarian" did. The topmost one, on the 1st of May, he "found rife with young drones, perfectly shaped, but as small as workers." As the cells of drones, in general, are only a shade deeper than common ones, the *supposed* males must have had nearly their full length of growth in the latter, especially as the mouths of the cells were sealed up in the usual way. Therefore, they were not like *dumpy* bees of both sexes, which we have said were bred in small cells on the edges of the combs.

But, supposing we are wrong, where else can "Apiarian" find perfect cells to cramp the larva of the worker? If Huber's theory be right as regards small drones, why not equally so with the little workers? There could not be anything wrong with the fecundation of the queen in "Apiarian's" hive, which succeeded the one that died in the autumn; otherwise, the bees could not have been strong enough on the first of May, to take possession of the two upper boxes.

This is the statement which we passed over; and we may add to it, "that all the brood in the top one were within two or three days of coming out." In connection with both, we may safely say, that a strong colony, except in very severe weather, always contains young bees in all the different stages of existence, from the eggs to the hatched bees. Indeed, as the insects are short-lived, and are always gregarious, without such a wise provision, a colony, however well managed, must soon cease to exist.—J. Wighton.

NEW PUBLICATIONS.

The Chrysanthemum.*—All who cultivate this flower with a desire to grow it excellently, should buy this little work. It is filled with useful information, the result of twenty-five years attentive cultivation of its subject. It contains full particulars relative to the culture of the Pompone, as well as of the larger kinds, with descriptions of all the best varieties.

Diary of the Dairy, &c.†—This is a very useful journal, containing, besides the Diary for daily returns of produce, information relative to the diseases of cows, pigs, and poultry; directions for management, &c.

Carter's Floral Illustrations.—These very beautiful and coloured portraits of flowers are published monthly, by Messrs. Carter and Co., Seedsmen, Holborn. No. 3 just out, is a group composed of *Tropæolum Lobbii Caroline Schmidt; Tacsonia ignea; Show Carnations; Perpetual Carnations;* and *Ipomæa hederacea superba.*

Solomon's Gardens at Jerusalem.—These celebrated gardens extend along a valley which runs from El-Bownach to Bethlehem. It is the most charming spot in all Palestine. There are murmuring streams, winding through verdant lawns; there are the choicest fruits and flowers, the Hyacinth and the Anemone, the Fig tree and the Pine. Towering high above the garden, and contrasting grandly with its soft aspect, are the dark precipitous rocks of the neigbouring mountains, around whose summits vultures and eagles incessantly scream, and describe spiral circles in the air. The rare plants and flowers, which Solomon collected within these gardens, were protected from the north wind by the mountains. Every gust of the south wind was loaded with perfume. With the first breeze of spring the Fig tree puts forth its fruits, and the Vines begin to blossom. It was, in the words of Scripture, "a garden of delights." The vegetations of the north and south were intermingled. One part of the garden was called Walnut-tree Walk (or, as the English Scripture translation has it, "The Garden of Nuts"), another is the "Beds of Spices." The present tenant is an Englishman, Mr. Goldsmith, of the house of Goldsmith and Son, who is underdraining the garden on the Yorkshire system. Since the eastern war, Mr. Goldsmith has obtained the custom of the Pacha of Jerusalem for vegetables. Last year he had seven crops of Potatoes, thanks to his wonderful drainage.

* *Culture of the Chrysanthemum*, as practised in the Temple Gardens. By Samuel Broome, F.H.S. Sold at the Lodge, Inner Temple Gardens.

† *Diary of the Dairy, Piggery, and Poultry Yard for* 1858. By an Essex Amateur. Colchester: *Essex and West Suffolk Gazette Office.*

QUERIES AND ANSWERS.

NERINE PULCHELLA CULTURE—OXALIS CERNUA—SPIRÆA CALLOSA.

"Please give directions for treating *Nerine pulchella* after flowering; and name the best time for shifting it. Last year I shifted my roots of it, and took off offsets on the 1st of June. The young leaves, which had appeared before the old ones withered, now died off, and the roots sustained a severe check.

"Can you tell me what part the axillary branches of *Oxalis rubella* bear in the economy of the plant?" [Carry leaves to ripen the sap.] "Except about the first pair on a strong plant, they do not flower; but numbers of them are produced after the flowers are over. Do these later branches produce blossoms in the native country of the plant? Or do they merely assist in forming the new bulb?

"Is *Oxalis corniculata atro-purpurea* a true species, or merely a variety of the native *O. corniculata?* Is it worth cultivating?"—[We do not know it; but *corniculata* is a nice rock plant.]

"I do not remember to have seen *Oxalis cernua*, or *caprina*, noticed in The Cottage Gardener. It requires abundance of light and air, and some little attention, to keep it free from the aphides; but its handsome trefoil foliage, and bunches of bright yellow flowers, would repay much more trouble than it demands. It multiplies its bulbs with great rapidity, forming them in clusters, at short intervals, on the tough sinewy root, which it coils round and round its pot.

"Does *Spiræa callosa* require any particular soil, or culture, to bring its flowers to perfection? A plant of it in a common border produced, last year, a very insignificant pink flower, quite unworthy of the praise bestowed on it by Dr. Lindley. I have heard that a nursery gardener had actually thrown away his plants; when numerous orders, consequent on Dr. L.'s encomium, obliged him to replace them."—B. H. H. H.

[Not at all unlikely. But why give heed to these rhapsodies? Botanists admire the greatest weeds; and as to *callosa*, it is hardly worth a farthing to the great mass for whom we cater. Dr. Lindley is a very good authority on some things; but his knowledge of practical gardening is very limited, and very peculiar.

Oxalis cernua is a very different thing from *caprina*. *Cernua* is the best of all the very old yellow spring-flowering kinds. It is now in leaf, or should be; but when at rest, by the end of June, could you send a few "roots" of it to the Experimental?

Nerine pulchella is as easy to manage as a Crocus. You divided yours a month too soon; but the end of August is the best time to pot all of them. Get up their leaves early in September, and keep them in vigorous growth all the winter, and rest them three months in summer—that is all; only that light loam suits them best. No peat, or leaf mould, or codling, but abundance of air, day and night, when it is not frosty.]

CAPE BULBS.

"A friend of mine has a lot of Cape bulbs sent to him, and will feel obliged by your letting him know how to grow them; whether they are hardy or not; and any other thing you could advise regarding them; a list of which I send, viz., *Antholyza prealta; Albuca viridiflora; Brunsvigia falcata; Babiana purpurea, B. villosa, B. rubrocyanea, B. ringens, B. alba,* and *B. tubiflora; Gladiolus gracilis, G. fragrans, G. hirsutus, G. alatus,* and *G. alba; Geissorhiza; Hæmanthus coccineus; Ixia versicolor, I. patens,* and *I. viridiflora; Lachenalia alba; Moræa bellendina* and *M. purpurea; Nerine undulata; Ornithogalum caudatum; Oxalis rosea; Sparaxis alba* and *S. grandiflora; Trichonema grandiflora; Watsonia Meriana, W. hirsuta, W. humilis,* and *W. alba.*" —M. S., *Kilmarnock.*

[The Cape bulbs are all greenhouse kinds. The large bulbs, as *Brunsvigia*, require to be potted in strong loam with a little sand; the medium-sized bulbs, as *Antholyza* and *Gladiolus*, one-half loam and one-half peat, with a little sand; and the smaller kinds, as *Babiana* and *Ixia*, had better be put all in peat, with a little sand, the first season, and after that about one-third light loam and two-thirds peat. Most of the smaller kinds will begin to grow immediately, if they are sound; but the very large bulbs may remain dormant till the autumn. A cold frame would be a good place for them; and do not give them much water till the leaves have pushed a little. *Brunsvigia falcata* is very difficult to flower; but *Hæmanthus coccineus* blooms freely. The rest are very easy to manage, and are good of the kinds. The wild *Gladioluses* are hardly worth growing; and *Nerine undulata* is scarcely better; but perhaps you may be of a different opinion when you see them in bloom.]

CLIMBERS FOR A SMALL GREENHOUSE.

"I have lately erected a lean-to greenhouse, sixteen feet long, twelve feet high, south aspect; and shall feel obliged by your recommending two or three choice climbers for the north wall. Also, three or four plants for my top stage."—J. B. R.

[You should allow nothing to cover the roof of such a greenhouse as yours. Depend upon its being a penny wise and pound foolish system. The stage must rest up against the back wall, so as to leave you no more than three feet or so, at the top, to train climbers on. All that we should attempt, under the circumstances, would be one climber at each end, at the back. Train these over the back of the stage; and at the end of May, take out a square of glass at the top of the end, and take outside one half, or more, of such climbers. We believe that to be the only system by which the finer *Tacsonias manicata, igneæa,* and *pinnatistipula*, can ever be successfully flowered in England; but we would not advise you to try this experiment. Rather take the large blue Passion-flower for one, and certainly *Mandevilla suaveolens* is one of the finest climbers in the kingdom, for the second; but, recollect, neither of them will do very well, unless they get their liberty into the open air in summer. *Jasminum nudiflorum* will bloom all the winter on the back of your house, if it is grown in large pots, and the pots to be taken out *in May*, not sooner. After a first growth, to be plunged against a wall, and to train the Jasmine against the wall all the season; then to remove pots and plants to the top of the stage in October, to remain inside till May. In a short time you will find that the top shelf, at the back of this house, has not too much head-room for the fine specimen plants from the general collection, which will grow on your hands; and, to cramp them, in order to make room for plants on purpose, will only bring us back to the same point from which we started—the penny wise and pound foolish system.]

FORCING VINES.

"I have a vinery running east and west, fifty feet long, with a partition in the centre, and two furnaces; one at the east end, and one at the west end. I intend forcing the west end of the house, and keeping the east end for late grapes: shall I be right in always keeping the west end for early grapes, and the east for late; or would you recommend me to force the west end one year, and the east end another?"—An Old Subscriber.

[Continue forcing the west end: when once the Vines in the west end are used to forcing, they will come earlier of their own accord. In very early forcing it is advisable, at times, to give the house a rest; but if you begin about Christmas, or even a month earlier, you cannot do better than force the same end every year. Mind, if you begin early, to see that the roots are in action as well as the tops.]

GRAFTING A LARGE CAMELLIA.

"I have one of the old white Camellias, too large for my house; the gardener wants to do away with it, but I wish to cut it in, root and branch, to graft two or three better ones on it. Can it be done? When commence operations, and how proceed?"—Manchester.

[You may cut your Camellia as much as you please; it will break pretty well as freely as a Laurel. If the roots are all

right, we would not disturb them, until the plant is pushing freely. Prune back as soon as the flowering is over. If you could put the pot on a bed of warm leaves, and cover the head with a frame, or handlight, you might graft it all over at once, shading from the sun until the grafts took. Then, if you thought necessary, you might reduce the roots; but keeping shaded from sunshine again, until the reciprocal action was restored. There is no better Camellia than the double white; and, if you did not graft, all that would be needed would be to place the plant in a vinery, &c., until it broke; and, if no such place, keep it as close and warm as possible in the greenhouse.]

CAMPANULA EDGINGS—PHLOXES WITH ROSES.

"I wish to plant *Campanula alba*, and *Carpatica*, as permanent edgings to beds intended to be filled with bedding plants, scarlet and white. Should I put in plants of the *Campanula's*, or sow the seeds in pots? Will they, in the latter case, bloom this summer? Phloxes to plant among Roses, in beds, occasion the same difficulty to me. Will sowing the seeds *now* be right, to bloom this summer?"—Anna.

[It is much better to buy old plants of these *Campanulas*, at once, but keep them in the pots, or in the lumps, till the middle of April; then divide the balls, or lumps, into little pieces, holding half a dozen green heads or shoots, and plant these bits four inches apart, and four inches from the Box or Grass. After that, you must take them up every year at that time in April, and plant them in larger bits—it is the dividing of them just at that particular period which causes them to bloom on all the season, and you will soon have ten thousand of them to spare, they so increase in good soil. *Phloxes*, as you want them, do not come true from seed. You might expend ten pounds on the experiment, and not get one Phlox worth a farthing. When perennial Phloxes get strong enough, they will kill, or starve, your Roses. They suck the goodness out of the soil, so much as "to kill their own selves," in a short time; hence the reason for dividing and changing them so often.]

THE STORY OF AN UNFORTUNATE.

I am a pot Vine, two years old, and I belong to the Muscat branch of the rich and ancient family of the *Vitis Vinifera*; but (and that is the reason why I now write) I do not think that I have had proper treatment at the hands of my owners; and I now appeal to you, as a person well acquainted with our family, and an impartial judge amongst us, to decide whether it is so or not.

I was bought, when one year old, from a neighbouring nurseryman. My treatment, during my infancy and youth, is a blank in my memory; but, when I exchanged hands, I am compelled to say, I do not think it was for the better.

I did not commence my second year's growth till late in the season—April was the time; and it was decreed (if possible) that I should grow, and be ripened off by November. In order to compass that, I was about October so deprived of water, that I ripened from sheer exhaustion. The first week in November I was taken out, pruned, and plunged in tan, under a north wall, to have a good rest; but, about eight weeks since, they wanted some scions from me, and, therefore, cut my end buds off; brought me into heat six weeks after (the first week in February), and the sequel will show how I am.

I do not wish to speak in disparagement of my owner, and his John's experience; the truth, however, must be told; they possess more zeal and enthusiasm than skill—more anxiety to do me good, than a knowledge of what is proper for me: as an instance, incontrovertible, I must quote my present position. I am top-dressed with a rich surfacing, composed of burnt turf and farm-yard manure—three parts of the latter to one of the former. I am plunged in a bottom heat of 60° or 70°. I am syringed two or three times a day; but, by some unaccountable means, I am troubled with an issue of sap; I am bleeding most profusely; insomuch, that my owner looks at me with a blank face, and says, "*It's all over;* no fruit *this* year!"

Now they endeavoured, as well as they knew, to do justice to me; and I would not be ungrateful, but I certainly feel much weaker from loss of sap. They have tried to stop my bleeding, by every means that books and friends could suggest; as yet, they are all futile. First of all came Roman cement, but I kept it so moist, that it was impossible it could set. Then they tried burning the end quite through, for an inch or two down my stem, with a candle; thinking that, by completely charring every pore, they would succeed. Vain hope; no barrier could stop the force of my sap. I could see my owner's face lengthen every day: some one suggested sealing-wax—not the slightest use. Then whilst reading "The Book of the Garden," my owner met with the suggestion of sticking a raw potato, with the skin entire, upon the end of me, that same evening. My owner and John came down to the vinery, to cure me entirely by this admirable dodge: so many disappointments had well nigh quenched their hope; however, with a most fervently-expressed wish that it might prove effectual, they left me till morning. Next morning my owner says to John, "Well, how's the Vine?" "No better, Sir;" and John adds, "I don't think any thing ever will stop it." Driven to their wits' end, a neighbour is called in, who speaks encouragingly of a crop, and a good one too; makes light of my bleeding; suggests, tying over my ends with parchment and chalk; and "*if that does not cure it, why nothing will.*" Accordingly my owner and John come into the vinery, the following morning, with powdered chalk, pieces of wet bladder in lieu of parchment, plenty of good stout string, and a glue-pot, to fasten the string more surely; so, cutting a piece of bladder, large enough to tie over the end, and up my stem an inch or so, they fill the bag-like receptacle with chalk, tied me very, very tight, and said, as they nodded at me most oracularly, "if that does not cure you, you are hard to cure." All in vain; no coercion is powerful enough to check my outflow of sap, for it is actually oozing through the bladder; and the little bag is so full, that it is quite hard to the touch. And here I remain. Now, what can be done for me—Can you suggest any thing to them? Can you speak peace, and hope of a crop to them? for they are terribly down-hearted: if so, do.

And now, may I ask, will no one write how I ought to be treated! I do not say, but there have been most elaborate essays upon my culture; but let the ideas be put in a simple form—like Mr. Errington did for my neighbour, the Camellia. Let some of my admirers and friends do me justice, and they will confer everlasting obligation upon—A Pot Vine.

TO CORRESPONDENTS.

Lobelia Disease (*Albatros*).—*Lobelia ramosoides* has been much diseased for the last two years, but we have heard very little against *Lobelia speciosa*. Are you sure yours is the true *speciosa?* At all events, this Lobelia disease is just on a par with the Potato disease. *Lobelia speciosa* comes true from seeds, and seedlings of it may resist the affection. Last summer was too hot for these Lobelias, and we would not hesitate to plant *speciosa* again. The large Petunia, you mention, made its public appearance last season for the first time. It was one of the best Petunia beds at the Crystal Palace, and is also one of the best pot plants in-doors.

Cocoa-nut Refuse (*F. H. B.*).—The dust, or sawdust-like refuse, the real shell of the nut, crushed or ground down like coffee, is the real thing, and the best thing we know of, for encouraging roots; there is a good deal of the short fibre which cannot be separated from the dust without sifting. It looks better on the surface of beds, when sifted, but we prefer it just as it comes from the mill.

Mr. Kidd's System for Cuttings (*Jane*).—You will have seen your questions answered last week, by the "charmer" himself, and let us add—1st. This is the season for striking cuttings by Mr. Kidd's plan, and it is in "season" from February to September. 2nd. The very points of autumnal cuttings will do, but the younger the growth the sooner they root. 3rd. Any sand will do, and no glasses to cover the cuttings. The cuttings are like a nosegay put in water, only that before they fade they root most charmingly. 4th. Plants well kept in your greenhouse may be used for cuttings. 5th. "Prick the cuttings out," just like seedlings. Never was a better idea in few words. There need be no hurry, let them root well, and consult your convenience, to prick them off.

Sanders on the Vine (*Bristolian*).—You can obtain it through any bookseller in Bristol.

List of Fuchsias and Pelargoniums (*Gladiolus*).—White Fuchsias.—*Venus de Medeci, Pearl of England, Duchess of Lancaster, Clio, Fairy Queen*, and *Prince Arthur*. Red Fuchsias.—*Wonder, Voltigeur, Diadem, Prince Albert, Kossuth*, and *Coralina*. Pelargoniums, Common.—*Sanspareil, Basilisk, Pearl* (white), *Optimum, Carlos*, and *Governor General*. Fancies, Common.—*Lady Hume Campbell, Madame Sontag, Cassandra, Delicatum, Lady Alice Peel*, and *Miss Sheppard*.

Names of Plants (*Mrs. L. Dundas*).—We believe it to be *Clematis polymorpha*, variety *semitriloba*, or Half-three-lob-edleaved Polymorphus Virgin's Bower. It is a native of Corsica and Majorca. If you had sent us a spray with its flowers and leaves, we could have been certain. (*Tonbridge*).—The bits sent scarcely justify a guess at the name of your plant. We think it is *Lobelia bicolor*.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

June 28th, 29th, and 30th, and July 1. Sheffield. *Sec.*, Wm. Henry Dawson, Sheffield.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

SELLING POULTRY—COOKING OLD FOWLS.

It is one of the solaces of our editorial position, that it brings us constantly in communication with many pleasing correspondents, of the softer sex. Most of them, however, have a cuckoo note, at this time of year, "What are we to do with our surplus stock?" The answer to this involves a repetition of what we have said, for the last four or five years; and it tends rather to a change next season, than to any profitable relief for the present.

Almost every one exhibits Poultry, and, in order to do so successfully, many chickens must be bred. It is an impossibility to breed all winning birds; and, at the age of fourteen or fifteen weeks, a Draconian edict should be issued, punishing the slightest defect with death. Nothing entails so much loss, as the amiable hope that a faulty chicken will grow out of its deformity, or that the puny survivor of an unfortunate brood, will "take a start." If it be intended to rear Exhibition birds, it must be remembered, that they will have to encounter those that have never had a check, but have grown up uninterruptedly. How, then, can the poor struggler hope for success? "Well then," says our fair querist, "Suppose I *do* make up my mind to kill the poor creatures, what shall I do with them?" "Sell them," we answer. "Yes," is the reply; "we see in your quotations fowls at 5*s.* and 6*s.* each; and, when we want to sell, we only get 3*s.* 6*d.* or 4*s.* 6*d.* the couple." Not a bad price, either; though we think that in May you would get more; but, it must be recollected, we quote for the very best qualities: and for you to expect to make as much as those people, who have followed Poultry breeding as a livelihood, would be as unreasonable as for a lad to wish to ride for the Derby, because he had ridden his father's cob round the park without a fall. We promise you, the chickens you draft for sale, in May, will pay you all they have cost. You must not look to these for your profit, but to those you have selected for Exhibition; for, even if they are not prize takers, they will sell at prices that will be profitable. In nineteen cases out of twenty, where Poultry is unprofitable, the reason is, that too many birds are kept. Amateurs hope against hope, as to the capabilities of their pets, and allow abortions to go on eating food, when it is certain they will never make any return for it.

But what a manifest advantage it is to clear your yards and runs, thereby giving every scope to your selected birds; and what a diminution of the consumption of food. We hardly know whether to laugh or groan, when we find a person, who started with the intention of keeping only a few fowls—say ten hens and two cocks—and who does not mean to keep more as a breeding stock, surrounded at Christmas with fifty or sixty, all declared too good to kill, and yet absolutely unsaleable; too old to eat—not good enough to sell as stock, unless at low prices, as ordinary fowls. Many do not make as much in December, as they would have made in May and June; and *Pater-familias*, although not a little proud of his capabilities as a carver, looks askew at the rounded and firm proportions of the fowls before him, and cuts, and strains, and soils the cloth, in his endeavours to dissect the full-grown members of the yard, which, with many a sigh, he has devoted to the spit, on which they should have turned five months before.

Is not a hint, as to cooking Poultry, in the proper place, in the *Poultry Chronicle?* Well, then, we will give one to such of our fair readers as take an interest in culinary matters.

How to make the best, and most savoury, dish, with old fowls.—Take a dish (an oval one is best), and it must have a cover to it; cut thin slices of bread, and line the bottom and sides of it with them; then put a layer of bacon. You may then either put in your fowl whole, or, if you have more than one, you may cut them up; if the latter, lay them in layers, filling up with any odd scraps of meat you may have—nothing is too common or too fat; any remnants or trimmings, pieces of bacon, any of the little *bits* that turn to no account; but fill every space—make it, in fact, a sort of edible grouting. When the dish is full, pour in gravy; or, lacking that, pour in water till it is full; then put a layer of bacon and bread, as before; put on the lid, and tie it down. Let it be put in a slack oven over night, and allowed to remain simmering till the morning; then let it get cold, and your old Cochin-China, or Dorking cock, will be tender and juicy, and built in, in a bed of jelly and succulent meat. Your odds and ends of fat will be turned to flavoured marrow, and the bits of stray meat will be seen set in amber. Hungry boys and girls are very fond of the crisp slices of bread, that have lined the vessel. We forgot to say, that the top of the tureen should have the necessary small hole, to prevent a blow up. We must defer the further consideration of this, and our instructions, till a future paper; but we will conclude in a merciless spirit, and say, If you have too many fowls, and cannot turn them into money, because the breed is so good, that you will not spread it by selling at low prices—kill your superabundant stock: it will prove a positive gain.

PERCHES.

In reply to your correspondent, "An Inquirer," I beg to hand him what little information I possess on the subject. I have tried large and flat perches, on which the birds rest without clasping them; also straw, bound with string, on a medium-size perch; both of which prevent crooked breasts; and I have found them choose a perch, bound with straw, in preference to a plain one. A split fir pole, three or four inches on the flat side, which is downwards, is very good. With Game fowls, and other varieties, that fly with facility, height is of small importance; but Dorkings should never ascend above three or four feet. As an instance: I had some Dorkings, Game, and Hamburgh fowls, roosting on a beam twelve feet high, in a shed paved with chalk, and consequently very hard; they had a small ladder, which they used to ascend, but always flew down; the lighter varieties escaped injury, but the whole of the Dorkings became tender footed, and one severely injured its breast bone. As a general rule, I consider Game less subject to crooked breasts than the heavier varieties.

In conclusion, I will quote an excellent account of breeding and rearing Game cocks, in the "Sporting Magazine," of the years 1793 and 1794:—"Provide your chickens with round perches, and covered with woollen cloth, which will prevent their growing crooked breasted; they must not, however, be thicker than they can gripe with ease, as that would occasion them to grow duck-footed; and they would not then be able to stand so firm in battle, as if their claws were in a proper direction. Neither should the perches be placed too high (that is, not higher than four or five feet, till they are three months old), lest it should occasion them to have swelled feet."—Henricus.

BLACK EAST INDIAN DUCKS.

Many are the correspondents, in your valuable paper, who have boldly advocated the cause of the Black East Indian Ducks, with respect to their having a separate class for themselves, at the different Poultry Shows.

In your paper of March 31, 1857, you will see that I there sought to draw attention to this omission, on the part of the framers of prize lists; and, if my remarks with respect to the Crystal Palace Show of January, 1857, were sufficient to prove (I will not say the necessity, but) *the propriety* of having a separate class for these birds, the catalogue for the last Show at the Crystal Palace will prove, beyond all doubt, that, next to the Aylesbury and Rouen, the Black East Indian Ducks

claim a place for themselves, *by themselves;* not that, for one moment, would I exclude the class for Ducks of "any other variety." But pray, Messrs. Gentlemen of Committee, let the Black East Indian Ducks have their own separate class, and their own separate prizes; and, for the future, at the great Poultry Shows, let them be able to hang out the board—"No connection with the gentlemen over the way."

Birmingham, Crystal Palace, Liverpool, Preston—you have, all of you, an example set you in this respect. The Royal Agricultural Society, whose prize-list for the Show at Chester I have just received, has nobly taken the lead, and has allotted to the Black East Indian Ducks a separate class, with three prizes attached thereto. We, who are exhibitors, hope that in this respect you will "follow your leader;" and, by so doing, "put the right Ducks in the right places."—Black East Indian.

HEREFORD POULTRY SHOW.

Feb. 25th, 26th, and 27th.

Judge—Mr. Edward Hewett, Spark Brook, Birmingham.

Spanish.—First, Mrs. J. C. Hall, Surrey House, Sheffield. Second, J. K. Bartrum, Bath. Highly Commended, J. K. Fowler, Prebendal Farm, Aylesbury. Commended, W. J. Thomas, Hay, Breconshire.

Dorking.—First, C. H. Wakefield, Malvern, Worcestershire. Second, E. Archer, Malvern. Highly Commended, Miss F. Bulmer, Holmer, near Hereford; J. K. Fowler, Prebendal Farm. Aylesbury; W. M. Lilly, Moneyhull Hall, King's Norton, near Birmingham. Commended, the Right Hon. Lady Emily Foley, Stoke Edith Park, Herefordshire; H. Churchill, Westgate Street, Gloucester; R. W. Fryer, Hinton Road, near Hereford; C. H. Wakefield, Malvern, Worcestershire. (A good class.)

Game (White and Piles).—First, R. W. Fryer, Hinton Road, near Hereford. Second, J. E. Price, St. Martin Street, Hereford. Highly Commended, W. Wright, Byford, near Hereford. Commended, W. M. Lilly, Moneyhull Hall, King's Norton.

Game (Black-breasted and other Reds).—First, W. Ballard, Woodcote Lodge, Leamington. Second, W. Dawson, Selly Oak, near Birmingham. Highly Commended, W. Broughall, Leominster, Herefordshire; R. W. Fryer, Hinton Road, near Hereford. Commended, J. E. Price, St. Martin Street, Hereford.

Game (Duckwings and other Greys and Blues).—First. H. Parry, Wellington, Salop. Second, W. Dawson, Selly Oak, near Birmingham. Highly Commended, H. Churchill, Westgate Street, Gloucester; J. E. Price, St. Martin Street, Hereford. Commended, H. Churchill, Westgate Street, Gloucester; J. E. Price, St. Martin Street, Hereford. (A very superior class.)

Game (Black and Brassy-winged, except Greys).—First, H. Parry, Wellington, Salop. Second, W. Dawson, Selly Oak, near Birmingham. Highly Commended, H. J. Taylor, Haygate, Wellington, Salop. Commended, R. W. Fryer, Hinton Road, near Hereford.

Cochin-China (Cinnamon, Buff, or Lemon).—First, J. K. Bartrum, Bath. Second, R. Sergeneson, 16, Tabley Street, Liverpool. Highly Commended, J. K. Fowler, Prebendal Farm, Aylesbury; R. W. Fryer, Hinton Road, near Hereford. Commended, R. W. Fryer, Hinton Road, near Hereford; H. Tomlinson, Balsall Heath Road, Birmingham. (A good class.)

Cochin-China (Brown Partridge, or Grouse).—First, B. Ford, Ide, near Exeter. Second, Mrs. S. R. Herbert, Powick, Worcestershire. Highly Commended, B. Ford, Ide, near Exeter.

Cochin-China (White or Black).—First, R. Chase, Moseley Road, Birmingham. Second, W. M. Lilly, Moneyhull Hall, King's Norton. Highly Commended, R. Chase, Moseley Road, Birmingham. Commended, Mrs. S. R. Herbert, Powick, Worcestershire.

Brahma Pootra.—First, J. K. Bartrum, Bath. Second, J. E. Price, St. Martin Street, Hereford.

Malay.—First, R. W. Fryer, Hinton Road, near Hereford. Second, S. Saunders, 12, Portman Terrace, Globe Road, Mile End, London. Highly Commended, J. Leighton, Cheltenham; W. Lort, Great Heath, near Tenbury. (A very excellent class.)

Hamburghs (Gold or Silver-pencilled).—First, T. W. Jones, Wellington, Salop. Second, E. Archer, Malvern, Worcestershire. Highly Commended, E. Archer, Malvern, Worcestershire; W. M. Lilly, Moneyhull Hall, King's Norton. (The competition very good.)

Hamburghs (Gold or Silver-spangled).—First, E. D. Boswell, Oxford. Second, R. W. Fryer, Hinton Road, near Hereford. Highly Commended, Mrs. H. Fookes, Whitechurch, Blandford, Dorset; R. W. Fryer, Hinton Road, near Hereford; R. Hawksley, jun., Southwell, Notts. Commended, T. W. Jones, Wellington, Salop.

Polands (Golden-spangled).—First, R. W. Fryer, Hinton Road, near Hereford. (Second prize withheld.)

Polands (Silver-spangled).—First, R. W. Fryer, Hinton Road, near Hereford. Second, W. M. Lilly, Moneyhull Hall, King's Norton.

Polands (Any other Variety).—First, G. Ray, Ivy Cottage, Minesteed, Lyndhurst, Hants (White-crested Black Polands). Second, H. Churchill, Gloucester (Buff Polands).

Bantams (Gold or Silver-laced).—First, R. W. Fryer, Hinton Road, near Hereford. Second, W. M. Lilly, Moneyhull Hall, King's Norton. Commended, R. Chase, Moseley Road, Birmingham.

Bantams (White).—First, J. K. Bartrum, Bath. Second, R. W. Fryer, Hinton Road, near Hereford.

Bantams (Black).—First, G. Finch, Worcester. Second, R. W. Fryer, Hinton Road, near Hereford. Highly Commended, J. K. Bartrum, Bath.

Bantams (Any other Variety).—First, H. Churchill, Westgate Street, Gloucester. (Second prize withheld.)

Any other Distinct Breed.—First, R. W. Fryer, Hereford (Black Hamburgh). Second and Third, H. Churchill, Gloucester (Negro Silky). Highly Commended, R. Chase, Birmingham (Andalusian). Commended, R. W. Fryer, Hereford (Negro Silky); W. Grave, Chelmsford (Negro Silky). (A very creditable class.)

CLASSES FOR SINGLE COCKS.

Spanish.—Prize, R. W. Fryer, Hinton Road, near Hereford. Highly Commended, P. H. Jones, High Street, Fulham, London. Commended, J. Hull, Widemarsh Street, Hereford.

Dorking.—Prize, C. H. Wakefield, Malvern, Worcestershire. Commended, Mrs. C. L. Preston, Fan Hill, near Stroud.

Game.—Prize, W. M. Lilly, Moneyhull Hall, King's Norton. Highly Commended, Mrs. J. B. Downing, Holme Lacey, near Hereford; J. E. Price, St. Martin Street, Hereford. Commended, G. Scandrett, Corve Street, Ludlow.

Cochin-China.—Prize, J. K. Bartrum, Bath. Highly Commended, T. Birch, Commercial Road, Hereford; Mrs. H. Fookes, Whitechurch, Blandford. Commended, J. E. Price, St. Martin Street, Hereford.

Brahma Pootra.—(Prize withheld.)

Malay.—First, C. Ballance, 5, Mount Terrace, Taunton. First S. Saunders, 12, Portman Terrace, Globe Road, Mile End, London. (Two so excellent birds have rarely competed.)

Hamburgh.—Prize, E. Archer, Malvern, Worcestershire.

Polands.—Prize, H. Churchill, Westgate Street, Gloucester.

Ducks (White Aylesbury).—First and Second, J. Weston, Aylesbury. Highly Commended, B. Ford, Ide, near Exeter; J. Seamons, Cold Harbour, Aylesbury. Commended, the Right Honourable Lady Emily Foley, Stoke Edith Park, Herefordshire; Mrs. H. Fookes, Whitechurch, near Blandford. (A wonderfully good class.)

Ducks (Rouen).—First, C. Anthony, Widemarsh Street, Hereford. Second, J. Bosley, Lyde, near Hereford.

Ducks (Any other Variety).—First, R. W. Fryer, Hinton Road, near Hereford. Second, Miss A. Berrow, Kilpeck, Herefordshire.

Pigeons.—First, W. M. Lilly, King's Norton (Runt). Second, R. W. Fryer (Porcelain or Fire). Third, J. E. Price, Hereford, Trumpeter). Fourth, J. E. Price, Hereford (Horseman). Highly Commended, J. E. Mapplebeck, Birmingham (Nuns); J. E. Price, Hereford (Almond Tumblers). Commended, W. Garland, Bath Street, Hereford (Poulter); W. W. Towse, London (Swallow).

Cottagers.—First and Third, W. Bubb, Widemarsh, Hereford. Second, Charlotte Green, Dinedor Hill, near Hereford. Fourth, W. Watkins, Aubrey Street, Hereford. Fifth, T. Thomas, Friar's Street, Hereford. Sixth, Mary Davis, Little Heath, Laysters, near Tenbury.

OUR LETTER BOX.

Chinese Rabbits (*L. A.*).—Our correspondent wishes to know where these can be obtained.

Deception at Preston Show.—"The portion of feather, I last week enclosed, was taken from a Brassy-winged Game Cock, entered in Class 1, No. 80, in the name of *William Rodgers*, Woodbridge, Suffolk, and was purchased by Thomas Shaw, Kirkham, Lancashire."—Mary Mc Duff.

[If this be true, Mr. Rodgers ought not to be allowed to exhibit again. The tail feather was spliced, as we stated last week.]

Various Queries.—"1. After a buff or white bird has been *scouring*, is there any mode of removing the mark of it? Will it do to wash the fluff? 2. Cockerels are said to develope in form and size better for being kept from hens. Is the same true of pullets? 3. Are forward chickens (for instance such as gain the prizes at *chicken* Shows) always, or generally, able to retain their superiority at two years old? 4. Is the unequal length of wattles in a hen a fatal defect? Or does it ever improve by conditioning?"—A. S. B.

[1. You may wash the plumage of any fowl without injury or difficulty. 2. Cockerels and pullets both grow to greater size and perfection, if kept apart till they are full grown. 3. The successful chickens at early Shows seldom maintain their position as adults, if the competition is great. It is an unusual thing, for instance, for the first prize takers at Birmingham, in adult classes, to have occupied the same place as chickens. It is a check to growing birds to go to a Show. 4. Unequal length of wattles is a defect; but, so far from being fatal, it is almost unimportant. If, however, the longest increases till it becomes a deformity, it would then operate against success.]

LONDON MARKETS.—March 1st.

POULTRY.

With increase of trade, and the approach of the time of scarcity, there is a slight rise in prices for the best quality of poultry.

	Each.		Each.	
Large Fowls ...	5s. 6d. to 6s. 6d.	Wild Ducks ...	2s. 6d. to 2s. 9d.
Small ditto.....	4 0 ,, 4 6	Widgeon.....	1 9 ,, 2 0
Chickens.....	3 0 ,, 3 6	Guinea Fowls .	2 6 ,, 3 0
Turkeys.....	8 0 ,, 12 0	Teal.....	1 9 ,, 2 0
Goslings	7 0 ,, 7 6	Hares	0 0 ,, 0 0
Pigeons	0 9 ,, 0 10	Rabbits	1 4 ,, 1 5
Ducklings	3 6 ,, 4 0	Wild ditto	0 10 ,, 1 0

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WEEKLY CALENDAR.

D M	D W	MARCH 9—15, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
9	Tu	Baurea rubra.	29.992—29.715	44—27	N.	.03	30 af 6	51 af 5	4 af 7	24	10 45	68
10	W	Boronia pinnata.	30.005—29.932	40—30	S.W.	.01	28	53	4 46	25	10 29	69
11	Th	Bossiæa ovata.	29.989—29.875	40—25	S.W.	—	26	55	5 14	26	10 13	70
12	F	Bossiæa rotundifolia.	30.002—29.990	45—28	S.W.	—	23	57	5 36	27	9 57	71
13	S	Bossiæa cordifolia.	29.806—29.519	45—33	S.	—	21	58	5 51	28	9 41	72
14	Sun	4th, or Midlent Sunday.	30.096—29.051	57—40	S.W.	.01	19	vi.	6 4	29	9 24	73
15	M	Camellias.	29.805—29.311	58—27	S.W.	—	17	2	sets	●	9 7	74

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 50.7° and 31.8°, respectively. The greatest heat, 68°, occurred on the 9th, in 1829; and the lowest cold, 7°, on the 10th, in 1847. During the period 136 days were fine, and on 81 rain fell.

MEETING OF THE HORTICULTURAL SOCIETY.—March 2.

The weather is bewitched for the Horticultural Society. Were it not that the Prince Consort was to be elected President, and that Dr. Lindley had thrown up his premiership and his pension, and was to be elected to his old post again, without pay, I would sooner stop at home, and roast potatoes all day, than venture out in such weather. But the same causes operated so widely, that we had barely standing room for all the Fellows, their wives and relatives, who attended. Nurserymen by the score, and lots of gardeners. Also, some of the great spirits of the age—as Sir W. Hooker, Mr. and Mrs. Bentham, and so-forth. The first grand opportunity for seeing the effect of the circulation of fresh blood into the new arteries of the Society, in the shape of "forced flowers," could not be expected on such a day. Who could venture plants out of doors in face of the lion of March? March came in like a lion this time, sure enough. But the British lion felt the impulse of the new order of things among the fruits and flowers, more keenly than frost and snow, and the upshot of it was, a better, far better, show of flowers than the old Horticultural had ever seen in March, or yet in April. "What a pity the unreformed Horticultural had not been off the stocks ten years back!" Nothing of the sort. It is much better as it is. Who knows but the "new blood" might not run as slow and as muddy after a while, and more particularly so, as it has to run in the old system of the body?

Ten years back there was no appearance of an effective opposition, such as that now at Sydenham, where the "higher branches" are taught without "schooling," or scolding; or, of a practical application of the entire experience of the country, anent fruit, in the shape of a Pomological Society; and without an effective, fair, and straightforward opposition, it would seem as impossible to do the right thing, by means of a Society, as to propagate plants by grafting the wrong end of the stock.

This time two years Earl Grey, with his parliamentary experience of men and things, took up the notions and the cudgels of the old Horticultural, and argued most conclusively, at one of our Meetings, that we should get rid of the Chiswick Garden, open a shop in London, and sell "tracts" on vegetable physiology, as applied to gardening. It must be immensely cheaper and more easy to garden in the air, than in a common garden like ours, with no money to buy seed for it, and no credit to go to market with. Now, if you had seen, as I did, the effect that turn in the tide had on young England, you would not be the least surprised at Lord Palmerston, for throwing up the game of politics. I wonder if he also threw up his salary? or if his society is rich enough to pay without work? Either way, we must be better off, and better to serve than politicians, for our work is willingly accepted, with or without pay, and it would be extreme folly, on our part, not to cut according to our cloth, and so we did, by electing our old premier.

To keep ahead of intruders, we now offer good prizes for forced flowers, and, judging from a fair beginning, we are likely to beat the world in that direction. To keep the Pomological Society on its manners, we have instituted a "Pomological Committee," to whose skill and judgment every new fruit will be referred in Regent Street. Therefore, we take no account of the merits of any kind, or sample, of new fruit, at our ordinary Meetings in future. Indeed, the new field of spring flowers, and forced and retarded flowers, has been thus so indefinitely extended, that we are compelled to hold our April Meeting on the 21st and 22nd, in the largest room in London, St. James's Hall, Piccadilly and Regent Street; that is, behind Swan and Edgar's, and close on the Police Station, in Vine Street. A very convenient arrangement, as the Hall will be lighted at night, and open until ten o'clock, for young gardeners to bring their sweethearts to see the flowers.

We are also going to take the bread out of the mouths of the East End dons next November, by adding a grand Chrysanthemum Show, with Ferns and fine-leaved plants, to the monster meeting of fruit in Willis's Rooms. All in St. James's Hall, and all so near to the Police Station, that we shall have no difficulty in "handing over" such of the Judges and reporters as may, even, grumble at a hard day's work.

But, let us glance at our present success, in the midst of the frost and snow. Twelve collections of Hyacinths—some had eighteen to the dozen, some twelve, and some six, and not a badly-forced flower among them. Messrs. Cutbush and Son, of the Highgate Nursery, took the premier prize; Mr. Turner, of Slough, the next; and the Messrs. Jackson, of Kingston, the next—all in the eighteens. Mr. Davis, gardener to E. Rosher, Esq., took the first prize for the twelve collections; and Mr. Ingram the next, for Her Majesty. Two grand collections of double Chinese Primroses, six plants in each, the Messrs. Jackson were first in these; and Mr. Glendinning, of the Chiswick Nursery, after them. A collection of forced flowers, with the pots hid in moss, from Mr. Cutbush, of Highgate, was much praised, but I did not catch the prize. This collection consisted of a row in front of the beautiful blue *Scilla præcox*, all in pots; then single and double Tulips, Hyacinths, Narcissuses (the yellow *Soliel d'Or*), Ghent, and other Azaleas, *Deutzia gracilis*, and others, with some forced Rhododendrons.

A large collection of very beautiful Cineraria seedlings, from Mr. Smith, nurseryman, Dulwich; my own favourite of them is called *Mrs. Livingston*, the "Ma Robert" of Dr. Livingston's book. The next, *Dr. Livingston*, himself a new very deep-edged crimson purple, with a small white centre, but *Mrs. Livingston* is in the older state, a large white centre; and crimson-

edged; and there were three or four kinds of selfs, or one-coloured, which looked rich and very gay.

Among a host of single China Primroses, a collection of six from Mr. Turner, of Slough, was the first. He had also a fine example of his new cottager's Kale, of which I told at the last meeting, and the lecturer told us now, that this is the most delicious Greens ever tasted; so I could not be far wrong in my estimation of it, without "tasting." I forget if I ever said that I was among the best cooks in the kingdom, to boil "Greens," but I am better at cooking Potatoes, and I could almost tell the best kinds of Potatoes for boiling, and for roasting, out of scores of kinds. Out of twenty-five or thirty kinds of Potatoes exhibited by Mr. Turner, of Slough, I would forfeit my cookery book, if one called *Brockley Kidney* is not the best, both for boiling and for roasting; and another named *Surprise*, or *Early Surprise*, a flattish kind, but not quite a Kidney, must be a thorough good boiler. There was a dish of the *Purple Ash-leaf*, much larger Potatoes than I ever saw of that kind. The best of the *Ash-leaf* kinds in this collection, must be the *Brighton Kidney*, which is of the true *Ash-leaf* breed, but is a much better kind for weight of crop.

There were in the passage leading to the show-room, also a collection of specimen Cinerarias, of which *Regalia*, a ruby crimson, is, undoubtedly, the best; and *Delight* the second best; this is a white centre and purple edge. *Duke of Cambridge*, *Lord Clarendon*, *Ruby*, and *Prince of Wales*, were the next best.

There was a grand new Azalea, from Mr. Ivery, of Beckenham, and called *Queen Victoria*, a white ground, striped, spotted, and blotched with purple.

Mr. Glendinning sent again the same plants of the new China Camellia, named *Princess William of Prussia*. The flowers are not very large yet, as the imported plant is not strong, but it promises to be the best of all the striped Camellias.

A collection of twenty plants of the different kinds of Cyclamens, very gay, from the Wellington Road Nursery, together with a collection of Ardisias, the *Ardisia crenulata*, and the white-berried variety of the same; also plants of *Ardisia crispa*, *A. corræa cardinalis*, and a fine plant of *Imatophyllum miniatum* alias *Valotta miniata*, with a fine head of bloom, having seven flowers open, and three more in bud, also a spike in seed; also *Monochætum ensiferum*, again in good bloom; and leaves and cut flowers of *Gesnera cinnabarina*, and cut Camellias.

A large lot of cut Camellias from Mr. Turner, of Slough—a dozen of them being a new style of Camellia, a deep red, with a touch of the *Waratah* in the centre, and coming hexangular, with a marbled vein up in each angle. Also, from Mr. Turner, a small, deep red, Cherry-like Capsicum, from Kertch, in the Crimea.

Cut spikes of *Acacia longiflora magnifica*, from the Pine Apple Place Nursery, showing this Acacia to be much better than I reported it to be this time last year. It is really a fine thing after all. A fine plant of *Skimmia Japonica*, in fruit and flower, from Mr. Noble, of Bagshot, in a Chinese square or oblong square pot. This was lectured upon as one of our best and quite hardy bush evergreens.

A Camellia called *Florence Nightingale*, with mottled blush flowers, from the Messrs. Lee, of Hammersmith. Another large plant of Camellia, *Prince Consort*, with large deep coral blooms, from Mr. W. Barnes, nurseryman, Camberwell.

Three Rhododendrons from Mr. Cutbush, of Highgate:—*Coccineum*, *Lindsayi*, and a new small-leaved, and very delicate deep blush flowers, called *gemmiferum*.

A large collection of plants from the garden of the Society, consisting of Rhododendrons, Azaleas, *Deutzia gracilis*, Epacrises, Cinerarias, Primulas, Camellias, and others.

Cut Roses, Azaleas, and Camellias, from Mr. Ellis, gardener to Dr. Bunce, Woodford, Essex. The Roses were much admired: the best were *Le Leon des Combats*, *Geant des Battailles*, *Adam*, and *Madame de St. Joseph*.

We had, as grand novelties, cut flowers of the *Rhodoleia Championi* at last from Mr. Fleming, of Trentham. This is the first time of flowering it in Europe, after eight or nine years, from the seed. When it comes to the flowering age, and treated like a Camellia, it will be a rival to that family, "and gladden the heart of a Tulip fancier," as we were told. A deep rosy hue, something in the style of an Illicium flower, and two inches and a half across when fully developed. Seven or eight of these come in heads at the end of the branches, and each flower looks as if half double from the number (18) of petals.

A most welcome new winter-flowering plant from Mr. Watson, florist, of St. Albans. This looks, at first sight, like *Funkia grandiflora*, with large, fleshy-ribbed leaves, which are stalked from the roots; stout, thick flower-stems rise from among the leaves. They, too, are clothed with smaller leaves, but the leaves are not stalked: they clasp the flower-stem. On the top is a truss of large, light blue Forget-me-not-looking flowers; but the plant is a kind of *Cynoglossum*, or something that way. It will be a hardy greenhouse plant, very handsome, and as easy to grow as Rhubarb. It comes a long way off—from the Chatham Islands, if you happen to know where they are. We seldom hear of them, but they lie to the east of New Zealand; and this plant will be a Forget-them-not.

And, last of all, we had the most noble of all the Vandas from Mr. Veitch: this is *Vanda Lowii*, flowered for the first time in Europe. A strong, recently-imported plant, sent over by Mr. Lobb from Borneo, and so carefully packed as to preserve the incipient flower-shoot all the way to London, to astonish us by its length and profusion of bloom. The spike is over a yard long, aud covered from end to end with large purple and brown and yellow flowers. But Mr. Hugh Low, the Colonial Secretary at Labuan, who first discovered this noble Vanda, and after whom it is justly named, had seen it in Borneo with the flower-stems twelve feet long, and coming as freely as those of a *Gongora purpurea*; and, if I mistake not, the lecturer himself has a specimen of it from Mr. Low, which is eleven feet long; but having had to speak of so many things, he must have forgotten this evidence of the great value of *Vanda Lowii*.

J. J. Blandy, Esq., sent a most beautiful specimen of the *Cyclamen Persicum*, in full bloom; and the lecturer told us, most innocently, that he had to pay eighteenpence for a forced little plant of the same kind in Covent Garden Market at the beginning of January, and that it was yet in bloom in his drawing-room; therefore, a most desirable plant to have, and to force early. But the very idea of the Secretary of the London Horticultural Society having to go to Covent Garden, and pay for a little plant in bloom, to cheer his fire-side in winter, tickled my fancy most irresistibly. While I, who am no more than a F.H.S. at best, can hardly find room for plants sent gratis, and carriage paid, to the Experimental Garden!

In fruit, we had new Grapes and new Strawberries, one large Pine Apple, and basketsful of old Grapes: also Pears and Apples; but the last were all seedlings or new kinds, and were to be referred to the Pomological Committee. Mr. Forbes, gardener to the Duke of Bedford, had the first prize for new Grapes

—three bunches of *Black Hamburghs.* Mr. Hill, of Keele Hall, had new *Hamburghs* also, and large baskets of *Muscats,* and of *Barbarossa ;* one bunch of the latter was 3 lbs. weight. Mr. Butcher also sent a dish of the *Barbarossa,* which has not the least sign yet of shrivelling. Mr. Tillyard, gardener to Lord Eversley, sent a fine *Enville* Pine, weighing 4 lbs., whose crown would hardly weigh an ounce ; a basket of the *Black Prince* Strawberry, the fruit arranged in eight rows, and twelve fruit in a row : eight multiplied by twelve is equal to ninety-six—a very good dish ! What an excellent early forcer the Black Prince is. Mr. Tillyard also sent a dozen of his *Ne Plus Meuris* Pear, in fine condition for table. There was a large dish of very fine-looking *Easter Beurré* Pears, from Miss Garnier, of Wickham, Hants : they will hardly be "in" by Easter Sunday; but they were a noble-looking dish. There was a fine-looking seedling Apple, called *Webb's Beauty of Stalham,* from J. C. Webb, Esq., of Stalham Hall, Suffolk. A Pearmain-shaped kind from Mr. Veitch, called *Eggesford Seedling,* and another Russetty excellent-looking kind, called *St. Leonard's Seedling ;* and from Mr. Simpson, Stoke Farm, near Slough, a plain-looking Apple, which is said to be an excellent keeper.

After the business of the fruit and flowers was over, Dr. Lindley left the professor's chair, and Mr. Dilke took his place ; the Chairman, the Rev. Vernon Harcourt, then told the meeting that the Prince Consort allowed himself to be nominated President ; but, by the bye-laws, it is enacted that he must first be one of our Privy Councillors ; so we balloted him first for one of the Council, with three cheers; and then unanimously to be the President, with three times three, "heel and toe." His reverence then told us, that Dr. Lindley's services to the Society were at an end. But that the Council recommended him to be elected in the room of Dr. Royle ; that we should gain £500 a year by that change ; but that we should gain nothing, and even be the losers, "if we lost the benefit of his admirable judgment, and practical good sense." We elected the Doctor with right good will, and gave him three hearty cheers into the bargain, and we all prayed that he might live to give us a specimen of his "admirable judgment and practical good sense."

D. Beaton.

SOCIAL ECONOMICS—GARDENERS AND THEIR EMPLOYERS.

The good influence of a class of men will be greatly in proportion to the mode in which that class is distributed, the intelligence possessed by it, and the sound moral principle by which it is actuated. Grant us the possession of these conditions, and few in the same social position, as gardeners, are better situated for acting as centres of influence. Whether that influence is, upon the whole, exercised beneficially, is, perhaps, too large a question for present investigation. On its very threshold we should be presented with evidence, of the general intelligence, moral worth, and unwearied industry, combined with refinement of manners, by which we are distinguished : we should, also, be presented with proofs, that if more book learned, we effect no greater results than our fathers : that we are not more distinguished for manly respect, keen shrewdness, strong common sense, and strict morality : that certainly we are rather more apt to be gentlemen where we can, excessively touchy as respects our dignity, and more apt than ever, to put employers to frequent annoyance and expense, from changing of gardeners, because we will not be interfered with, or cannot obtain what we like.

Allowing, that in such a large body of men, there may be a few whose conduct is not exactly what it should be ; granting to the full, that the frequent changing of gardeners is very often a cause of annoyance and loss to those who employ them ; yet, standing up naturally, in defence of my order, I must state that these inconveniences and drawbacks are not by any means wholly to be placed on our shoulders ; that employers have themselves, to a great extent, to blame, for the very evils of which they complain ; and would they be served faithfully, heartily, and intelligently, and somewhat continuously, so as not always to be having fresh faces, they must recollect, that, just as in other cases, the intelligent man knows his value, and will pant after a meet reward ; he feels that a certain respect is due to him for his fidelity and never-ceasing industry, in thorough contrast with the slightest want of confidence ; and that though he submit for a time, and for reasons satisfactory to himself, to certain regulations, that these will ultimately be burst through, wisely or unwisely, if the object has been to curb or subvert the strongest and most natural passions and emotions of humanity.

Like others of my coadjutors, I have not hesitated to say very plain, somewhat unpalatable, things to gardeners like myself, and those younger men, who, ere long, will fill our places ; but whilst I may do that sort of thing again, various circumstances have led me to conclude, that it would be advisable to bring a few points, candidly and deferentially, before the great body of the employers of gardeners. And as frequent changing has, of late, been a prevalent complaint, I would first direct attention to the great monster cause or grievance, as exhibited in England, and a grievance which could be easily removed, to the benefit of all parties concerned.

The grievance so fertile in mischief, is, in so many places, considering and looking upon the gardeners as an *in-door,* and not as an *out-door* servant. Let us take a few instances at random, of how the system works.

There is a nice little garden, of no great fame, beyond the immediate neighbourhood ; yet possessing much that is worthy of notice. You inquire for the gardener, and find him in the hall. If there is a housekeeper's or butler's room, the gardener is not good enough for that. We have no right to interfere with any person's domestic arrangements, but neither under such circumstances should our ears be dunned with the shiftiness and caprices of gardeners. In conversation, you find that he took the place just to bring himself round ; that he receives no more pay than a groom or stable helper ; and though he has no place but the hall to go to, the young ladies expect that he knows all concerning the new plants and flowers they read about in books. Need we wonder, that an ambitious man should leave such a place the first opportunity ? Need we wonder, that the contrast from the simplicities and frugality of a cottage, should induce such a change of habits, as to wreck the fairest of hopes ? Some employers, with limited means, feel a pleasure in thus employing, and then helping forward young men ; and who would breathe a word against their generosity ? Many of our most prominent gardeners have thus commenced, but there has been something in them, or around them, that enabled them to bend circumstances to their will, instead of allowing these circumstances to mould and fashion them.

Take another case—the type of scores I have known. There is a young man full of promise, and of aspiring hopes. He is now living in his third or fourth place as under-gardener. He studies hard, because the gaining knowledge has become an element of his existence. He knows what saving and frugality are, in

order that he may live on labourer's wages, and keep a respectable coat on his back. You may find him long past the midnight hour poring over books, bought or borrowed. It is not the pleasures of knowledge alone that thus prompt him; but hopes of applying it—visions of a Sir Joseph Paxton buoy up his spirits to exertion. He gets into what is called a good place; his character from every employer being the very highest. The very moment of success becomes the period of danger. Sudden contrasts are always dangerous. Had he gone into a comfortable cottage, his increased means would have given an increase to the comforts he chiefly valued. But he lives at the housekeeper's and steward's table; and, very likely, with the exception of a small bed-room, without fire, has no other place to retire to, to study or plan. Many even there contrive to maintain the simple habits of their boyhood; but it cannot be questioned that there is something very attractive in getting the legs ensconced under such a mahogany table, and in such nice-dressed, well-behaved company. Whatever the gardener is doing, however particular, he must leave it, and go to his meals at the minute; and, more than that, he must clean and dress, too, unless the place is one in which he is not expected to do any manual labour. The wearing of extra clothes—if this dressing must go on—forms a serious item in his wages. He finds, with all his grandeur, he is not so well off as he expected to be. Habits gain upon him, and study is exchanged for a careless perusal of the newspaper. How many with bright hopes here stand still, that otherwise might have progressed! Others there are that, wishing to get rid of habits that they find getting too powerful, leave the place, that they may leave these habits behind them; and thus master and servant part, that otherwise might have been comfortable in their mutual relations for years.

But this is not all. The gardener, if he loves his flowers, can hardly help loving everything that is beautiful. He must have rather a strange heart if he had no admiration to bestow on the sweetest of all flowers—his sisters of humanity. We do not think there is anything very extraordinary, under certain circumstances, in those who love flowers, as most ladies do, just casting a thought athwart the person who rears them. There is nothing unnatural in this. We may have doubts of the prudence of deciding that a bachelor gardener only shall be employed; that prudence would only be carried out if the gardener was kept, as much as possible, to his loves of the flowers. Bring him to your steward's room among all your young, nicely-dressed and agreeable female servants, and need you be surprised that, now and then, things transpire that do more than disturb your equanimity.

Some of our best gardeners have got so used to bacherlorism, that when they have houses they occupy them in solitary grandeur, as respects female companionship. I can well enter into, and make excuses for, such hermitism. It does not absolutely place all parties in the position of a Tantalus. A man conceived a dislike to the whole sex: he had one son, and he was brought up to his fifteenth year without ever having seen a woman; so goes the tale. Unfortunately, when father and son were out one day they saw some females. The inquisitive bump of the boy was soon at play, and his father told him they were *goslings*, and very dangerous. But it was of no use; the boy could not sleep, and got into a fever; his whole cry was for the goslings. The application is obvious. Let gardeners have the chance of marrying, or refraining from marrying, as they will. The more intelligent and moral they are, they will be the more prudent in taking such a serious step.

Human happiness is not to be measured so much by abundance of this world's means as by contentment; and that contentment is not easily gained when we are acting in opposition, and not in unison, to natural emotions. There have lately been a series of letters in the *Times*, discussing the question whether a young fellow might venture to marry on £300 a-year. The writers evidently place most of their anticipated happiness on realising a certain social position, a certain allowance of cigars, a certain style of living, and giving a certain number of dull, insipid parties. It requires little penetration to perceive, that they are too much in love with themselves ever to realise much of the sweets of a united home. We hardly know *Punch's* drift in stereotyping this folly. He presents us with a fine strapping dandy carrying home the joint from the baker, and a beautiful boy running by his side with the foaming tankard of porter. Who that knows anything of family happiness, but would say that that fine fellow would cut up that joint with a pleasure, which your position-hunting fast-man never could know. The evil at the present day is, in such cases, not so much an excess of prudence, as a thorough stereotyped selfishness.

Does it require a moralist to lift the veil to point to the results? Gardeners, as a body, would not be alarmed at marrying on a third of that magical sum. The Duke of Cambridge has spoken out plainly, and said it was not desirable that soldiers should marry. But as yet we have not been presented with the inconsistency in a barrack-room, of the men sitting at dinner on one side of the table, and fine-dressed young women on the other.

I have no means of knowing the exact proportion in which gardeners are reckoned as in-door and out-door servants in England, but we frequently meet with proofs, that the in-door system exerts a considerable influence over the whole, as exemplified in our professional literature. I almost feel ashamed to send a gardener's newspaper to any one not a gardener, for if a gentleman advertises for a gardener, or a gardener for a place, there is always something about the partner of the gardener, if married, and the olive plants that God has placed around their table, as so much, and so many in the way of "*encumbrances*." And there can be no doubt, that many an honourable man and first-rate gardener has left his place, without any given definite reason, and, perhaps, is now making a fortune, by turning up the virgin soil of Australia or Canada, who would never have left England, but that he could not brook the implied, if not open, disapprobation expressed, when an additional young stranger came home.

I would be the last to wish to interfere with the rights of employers deciding in what manner they should be served, but when a country is thus deprived of some of its best men, I may be permitted to inquire if all is perfectly right in this our model state. In Scotland, gardeners are, at least, not behind their brethren in England; they are quite as much, or rather more, respected by their employers; and if not better paid, they occupy, on the whole, a higher social position, and are more respected by their neighbours, because, in general, they remain long enough in one place to be thoroughly known. But I hardly know one instance, from the Tweed to Fatherland, where a gardener is an in-door servant. And in most of the places of any note that have come under my observation, not only are there good commodious dwelling-houses, but they are generally so placed, as to be near to the garden, and yet so out of the way of the principal walks, that if there should be a family, the gardener's employer may hardly ever see a child of the gardener's, without going on purpose to see them. Is there any valid reason, why, in numbers of cases,

the same plan should not be adopted here, instead of complaining that the garden gets ruined from gardeners changing so often? Can it be, for a moment, maintained, that a single servant is more steady, more faithful, and more industrious, than a married one?

One word more. If a suitable house be provided for the gardener, let it be looked upon, in every sense, as *his* house. The humblest man, whilst he occupies a house, wishes to look upon every thing enshrined within it, with the security of a castle. Many employers feel a pleasure in calling, now and then, at their gardener's house. Such kindness and civilities are seldom unappreciated. I have seen the highest of our aristocracy ringing or knocking at their gardener's door, with as much ceremony as if they were calling on one of the same rank as themselves. This is just what ought to be. It did not lower the dignity of the Earl or the Peeress, but it clustered around them, a warmer respect, a deeper-felt gratitude, a heartier "God bless them," from their humble inferiors. Some, from want of thought, may, very likely, from the kind desire not to give trouble, open the latch and walk in without announcement. The embarrassed air, the deep blushes of a young housewife, will render comment needless.

Another word still. When I thus speak of the unsuitableness of making a gardener an in-door servant, I have not the remotest desire to depreciate, in the least, the very many intelligent and amiable persons who are the general in-door servants in a gentleman's establishment. Besides several other reasons, the sphere of their duties, and that of the gardener, is quite distinct,and without the least reflection on them, I have long held the opinion, that the place of their abode should likewise be separate. R. Fish.

THE GROVE,
THE RESIDENCE OF H. MICHOLLS, ESQ.

There are, in the neighbourhood of Manchester, several gentlemen who have taste and spirit enough to induce them to cultivate plants, in such a style, as would not disgrace the best growers round London; and, amongst them, the gentleman, whose name is at the head of this paper, stands in the first rank.

I had the pleasure of visiting the Grove in the beginning of last month; and the fact of my being connected with The Cottage Gardener, caused me to receive a welcome and hospitable reception by this ardent lover of plants. I was certainly gratified, I may say proud, to find that our Cottage Gardener is valued, and read, and its precepts are practised, by so many growers of plants in this part of the kingdom, showing that our pleasant, earnest endeavours to advance the sciences of horticulture and floriculture are appreciated and adopted. It behoves our staff to exert ourselves, more and more, to keep up the interest and usefulness of our periodical, in order that the knowledge of the best principles of gardening may be more spread, and the taste for its delightful and innocent pursuits extended.

Though out-door gardens, at this time of the year, are not very attractive, excepting so far as they are kept in neat order, and due preparation made for summer display, yet hothouses and greenhouses are as interesting, and, perhaps, more so, in winter than in summer, from the great and delightful contrast exhibited therein as compared with the scene out of doors.

The Grove is situated within the reach of the smoke of Manchester, being only a mile and a half from the Exchange; yet the plants in the house are as well grown, and as healthy as others more happily situated, showing what good cultivation will effect under adverse circumstances. The head-gardener, Mr. Evans, is up to the mark in culture; his plants will bear comparison with anybodys, and are worthy of inspection. The place is easily come-at-able: omnibuses run almost constantly from the Exchange, up the Oxford Road, past the place; so that it is easily reached.

Having jotted down these few preliminary remarks, I now open my note-book, to give our readers some idea of the manner and extent in which the plants are grown, and also give any new, or little known, mode by which they are arranged and managed.

The conservatory, in which the grand display of plants in flower is shown, I entered from the drawing-room, to which it very properly adjoins, and thus can be visited at all hours. It is a greenhouse conservatory, but kept rather warm. When I saw it, the centre stage was filled with Camellias in full bloom. Every plant was as healthy as possible; they were so trained, or, rather, I may say, pruned, that each plant was in the pyramidal form; and they were so placed that each plant could be distinctly seen: hence their breathing space for every leaf to perform its functions. This is an important point in culture for all plants; for if plants are crowded, so that the lower leaves are shaded, they, the leaves, will, for want of light and air, infallibly turn yellow, and drop off; and the consequence will be long-legged, unsightly objects, common enough where plants are crowded. Therefore, *all plants ought to be so placed that no plant touches its neighbour.*

This house is a plain span-roofed one, of a fair size, and very enjoyable. I noted a peculiarity about the climbers on the roof; they are grown in large pots, placed on the platform on each side of the house. By being in pots, they can be removed when out of flower, and others substituted in their place; and also their being in pots has a tendency to reduce that rampant growth which many climbers attain when planted in a border — a growth that often is so great, that the climbers shade the house so much as to materially injure the plants below. At this time the creepers are nearly all Acacias, and are showing great numbers of flowers: the species are *Acacia affinis, A. longifolia, A. juniperina, A. longissima,* and *A. pubescens;* the finest of all, *A. argyrophylla, A. hybrida* (raised in the Manchester Botanic Gardens), *A. vestita,* and *A. verticillata.* Several stove plants in bloom are placed at the warmest end of this house, and added considerably to the effect.

From this conservatory we visited the stove. Here I saw some good Francisceas in bloom, and a good specimen of the best species, namely, *F. confertiflora;* also four fine specimens of *Phaius grandifolius,* with upwards of a dozen spikes on each plant. This is a very useful winter-blooming terrestrial Orchid, and may be grown in any stove. On the roof there is a fine specimen of that elegant creeper, the *Hexacentris mysoriensis,* with numerous spikes hanging down of its curious, handsome Orchid-like flowers. It is grown in a large pot; and it was remarked, that in order to cause it to bloom freely, it must not be pruned at all, but allowed to grow wild, only keeping it trained near to the roof. In the centre of this house there is a wide pit, filled with tan: in that the Ixoras are plunged; thus giving them bottom as well as top heat. I saw several good bushy, healthy plants of *Ixora coccinea,* the very best of the whole genus; also *I. crocata* and *I. javanica.* These will be very splendid, for they are showing abundance of bloom. I noted that the knife and the thumb and finger had been freely used, from an early stage of growth, to cause branches to break forth, and so keep them

densely bushy. There is in this house a very good specimen of the curious Venus's Fly-trap (*Dionæa muscipula*). It is grown in a pot in peat and moss, and the pot is placed on a bed of moss, kept moist. The plant was not covered with a bellglass, as it usually is, yet it was very strong and healthy.

Beyond this stove there is a low-roofed house, entirely occupied with that interesting tribe, the Ferns. The collection is very select; the aim being to grow the neatest foliaged species, rather than the large coarse ones. I noticed several beautiful plants of the Gold and Silver Ferns, and also *Chelianthes lendigera* and *macrophylla*.

There are here a Camellia house, an Azalea house, a Heath house, and a New Holland plant house. All these are kept separate, which is the best plan by far; for all of them require different treatment, or have such very dissimilar foliage, that they do not amalgamate well together. In all of the houses where the plants stand, each plant has its due share of light and air: hence every plant is a perfect picture of health and form. Mind this, ye young beginners in plant growing! Do not crowd your plants. You had far better throw away half your stock than have them so thick that all will be rendered unsightly.

In the New Holland house I noted, as being particularly good, *Acrophyllum venosum*, *Eriostemon intermedium*, *E. pulchellum*, *E. scabrum*, and *E. buxifolium*; *Boronia serrulata*, *B. pinnata*, and *B. tetranda*; *Aphelexis macrantha purpurea*, and *A. speciossissima*; *Phænocoma prolifera*; *Pimelea spectabilis*; *Polygala cordata*, and many others.

In a lean-to house, which is used as a vinery in summer, there are young specimens of most of the above plants, and others of more recent introduction. These are receiving the necessary training and stopping, to make them fit to remove into the other houses when the large, old plants become unwieldly and unsightly.

There was pointed out to me the mode of training *Azaleas*. They choose to have them all with short stems, above the soil, stating they are far handsomer so managed than if the lowest branches were near the earth. The small-leaved kinds, such as *variegata* and *lateritia*, are worked by grafting on stronger-growing varieties. These stems are generally about from nine inches to a foot high. To prevent suckers, all the lower buds of the cuttings are picked out, much in the same style that Mr. Beaton recommends for Bay trees, intended for standards.

Though it is commonly set down as an incontrovertible fact, that Heaths do not, or, rather, will not, thrive near a large town like Manchester, yet it appears there is no rule without exception. Mr. Evans so manages his Heaths here, that I have seen very few that surpass them. I was informed, however, that there are some species, such as *Erica aristata* and *E. Massoni*, that are beyond his skill: they will not live in a smoky atmosphere; but there are, as is evident here, plenty of sorts that will, with good management, thrive very fairly. I noticed a fine specimen, two feet through, of *Erica mutabilis* in full bloom, even at this season of the year.

My description of these plants gives but a faint idea of the good management bestowed upon them, and the effect of that culture. To be able fully to estimate them as they deserve, they must be seen.

All soft-wooded plants, such as Geraniums, Calceolarias, Cinerarias, &c., are kept in pits heated with hot-water pipes. The gardener, and his master too, argue that such plants have no business in houses till they are coming into flower. The Geraniums, in consequence of being close to the glass, and plenty of air given in fine weather, are low, bushy, healthy plants, which must make a splendid show in due season.

The structures devoted to growing these fine plants consist of three double houses; that is, with a division of glass in the centre, each forty feet by twenty feet, and two, without division, of the same size, all span-roofed, and the lean-to house referred to above. There is, also, a good propagating house, and some excellent pits.

In the open ground I noticed a large space inclosed by a skeleton frame: this, I was informed, is covered with canvass in summer, under which the best specimens are placed. The canvass is fixed to rollers, and can be drawn up in suitable weather.

The lean-to house is placed against a lofty wall. Before it was put up, that wall was covered with a large *Jargonelle* Pear tree. Mr. Micholls was unwilling to destroy this tree, and, therefore, he had it carefully taken up, and planted in the kitchen garden, and trained to a strong lofty trellis. It grew, and is now just recovering, and forms a very singular object.

On the lawn, I was shown a splendid specimen of the *Fern-leaved* Beech, perhaps the largest in Great Britain. It is nearly forty feet high, and spreads its branches symmetrically all round. Rhododendrons thrive here—as they do all round this part—very finely; and, therefore, they are the principal evergreens cultivated. T. Appleby.

NOTES ON NEW OR RARE PLANTS.

Hoya cinnamomifolia. *Lindl.* Nat. ord., *Asclepiadaceæ.*—Native of Java, and introduced into this country by Mr. Wm. Lobb. Stem robust, twining, branching, round and smooth. Petioles opposite, short, thick. Leaves acutely ovate, broad at the base, thick, slightly coriaceous, smooth, five-nerved; the three central boldly developed, the two lateral less so; margins entire. Inflorescence axillary, umbellate, on short peduncles. Corolla pretty large, divided into five broad, acutely ovate segments, pale dusky yellow. The organs in the centre of the flower surrounding the stamens dark purple.

A very pretty species of Hoya, but it cannot be entitled a free bloomer. The period of flowering is July or August, and it lasts pretty long. It seems to thrive best in a compost of about two parts nice friable loam, and one part peat, roughly chopped up together, with a fair portion of sand. A liberal drainage is very essential, for if the soil is allowed to become sour, from stagnant water, the roots quickly die and rot away; and it is extremely difficult to recover a plant once thus affected. Will root freely enough from cuttings of partially ripened wood, in moderate bottom heat under a glass.

Senecio Petasites. *Dec.* Nat. ord., *Compositæ.*—Native of Mexico and Brazil. Stem shrubby, much branched. Petioles long, slightly hairy. Leaves nearly orbicular, five or more lobed, covered with a soft down; nerves numerous, and strongly developed on the under side, light green. Inflorescence corymbose. Peduncles and pedicels bracteated. Scales of the involucre few in number, green. Florets of the disk numerous, small, those of the ray five, or more, oblong, bright yellow.

This plant is old, but scarcely known. As a winter-flowering conservatory plant it possesses great merit, the mass of bloom being very great, and the foliage fine. It would, probably, do well planted out in the conservatory, but it succeeds admirably cultivated in a pot, and blooms freely from the beginning of January till the end of February. It is said to be very effective bedded out in summer, as a plant of fine foliage. The readiest way to propagate it, is by seeds. They may be sown as soon as they are ripe, and the plants grown rapidly during the summer, and allowed to rest in the autumn, before being brought into bloom. It also propagates by cuttings.

Cantua pyrifolia. *Juss.* Nat. ord., *Polemoniaceæ.*—Introduced into this country by Mr. W. Lobb, from Peru.

Branching evergreen shrub. Leaves alternate, irregularly spread over the branches on short petioles, somewhat variable both in size and shape, but generally obovate, slightly coriaceous, smooth or somewhat downy, margin dentate or entire, with the teeth acute. Inflorescence corymbose, terminal, compact. Pedicels short. Calyx tubular, limb usually divided into two lips, each lip bearing two or three fringed teeth. Corolla funnel-shaped. Limb consisting of five erect, ovate segments, dusky white. Filaments long, slender, protruding beyond the limb of the corolla about half their length, and supporting oblong yellow anthers. Ovary three-celled, ovate. Style longer than the stamens, surmounted by a trifid stigma.

A very handsome greenhouse plant. It flowers in the early spring months, but is not strictly a free bloomer. A compost of rich loam, with a little peat and sand, suit it very well. Propagates freely from cuttings of young half-ripened shoots.

Astrapæa Wallichii. *Lindl.* Nat. ord., *Malvaceæ.* —Native of Madagascar. Stem strong, branching, sometimes in our stoves reaching the magnitude of a tree. Petioles alternate, long, strong, covered with short bristly hairs, based by a broadly-ovate stipule. Leaves large, cordate, dark green, both surfaces asperate from short stiff hairs; veins boldly developed; margins coarsely dentate. Inflorescence umbellate; pendant on a long hairy peduncle. Involucre consisting of three whorls of leaves; the outer one comprising two large dark green ovate leaves; the inner ones composed of several leaves smaller and diminished in colour. Pedicels about an inch long, hairy. Calyx of five lanceolate, hairy, sepals, with a single membranous bract situated at the base. Corolla of five oblong, obtuse petals, thin in texture, beautiful rosy crimson, never opening very wide. Each umbel contains about a hundred flowers.

This plant is, perhaps, one of the finest in cultivation, for it combines the qualities of a free bloomer, with foliage of the finest character. It usually flowers about July, but is also found frequently blooming in January. It blooms, too, at an early stage of growth, as I have seen a plant about eighteen inches high supporting two fine umbels. But if fine plants are wanted, it is not permissible to allow them to flower in a young state, as they rarely recover the check received by it. A specimen is most effective when it reaches the height of seven or eight feet. A compost of a strong loamy nature is most suitable to well-established plants, but, for smaller ones, a good portion of peat and sand is requisite. Cuttings of partially ripened short-jointed branches root freely enough, in strong bottom heat.—S. G. W.

ENTOMOLOGICAL SOCIETY'S MEETING.

The February Meeting of the Entomological Society was held on the 1st ult., the chair being occupied by Frederick Smith, Esq., one of the new Vice-Presidents appointed by John Edward Gray, Esq., F.R.S., who had been elected President at the anniversary Meeting, held on the fourth Monday in the month of January, but, who was unable to take the chair on the present occasion, in consequence of indisposition; a communication was read from him expressing his regret at not being able to take the chair, and nominating, as the Vice-Presidents for the ensuing year, William Wilson Saunders, F.R.S.; J. O. Westwood, F.L.S.; and Frederick Smith, Esqs.

Amongst the donations received since the last Meeting were the publications of the Royal and Linnæan Societies of London; the Entomological Societies of Stettin and the Pays Bas; Messieurs Cheviolat, Lacordaire, Hewitson, &c.

Mr. Samuel Stevens exhibited a number of beautiful and rare Coleoptera and Lepidoptera, recently received from Port Natal, collected by Herr Guerzius, from whom a communication was read on the habits of the species of the remarkable family of beetles, named Paussidæ, of which he had collected eight species, several of which are nondescripts, and which are found in the interior of ants' nests. The curious observation was also made, that, in general, pale-coloured insects are nocturnal in their habits; in confirmation of this, the pale Brazilian species of *Megacephala* and the curious *Vespa Doryloides* were cited.

An elaborate paper, by Sydney S. Saunders, Esq., her Majesty's Consul in Albania, was read on the economy of the genus *Conops*, belonging to the order Diptera, of which he had reared several species, which are parasites in the bodies of perfect specimens of Hymenopterous insects belonging to different families, namely, Pompilidæ, Vespidæ, and Apidæ.

A paper was also read by Captain Cox, on the successful treatment of Elm trees, in the Regent's Park, infected with *Scolytus destructor*. The ravages of these minute beetles are so extensive, and, unfortunately, so evident in the noble Elms of our great parks, that the attention of the proper authorities has repeatedly been directed to the question of their destruction, but without success; whilst the attention of several entomological authors, who have devoted themselves to the subject, have been rather directed to the question whether the Scolytus attacks healthy trees (and is, consequently, the origin of their destruction), or merely attacks such as are already in an unhealthy condition. Captain Cox evidently adopts the former of these views: in proof of which he adduces the fact, that of eighteen trees, which he operated upon in the Regent's Park, seventeen recovered; whereas, had these trees been really unhealthy, and only attacked by the insects in consequence of their sickly state, it is not credible that the mere removal of the beetles (considered as an accelerating cause) would have restored the trees to health.

Captain Cox's plan of operation against the insect is founded upon that practised in Paris (where, however, it has failed of success), and consists simply in removing those portions of the outer bark (not the alburnum, or inner bark) which are seen to be infested by the Scolytus, as proved by the small circular holes visible in the bark, being the orifices of the burrows made by the females. The plan adopted in Paris was to remove the whole of the bark of a diseased tree, which could but insure, and even hasten, its destruction. It is within these burrows that the females deposits their eggs. If the young larvæ, when hatched, bore away from the maternal gallery at right angles, each forming a separate burrow for itself, the larvæ from the eggs of a single female thus excavate an area of about four inches square; a tree, therefore, thirty-five years old, is liable to be attacked by as many as 280,000 of this larvæ. Captain Cox received the prize medal from the Royal Botanic Society, for his reseaches on this subject.

A short paper was also read, containing the description of a new and remarkable genus of beetles, belonging to the family Scaritidæ, recently sent from Brazil by Mr. Bates, communicated by Mr. Westwood.

THE KILMARNOCK APIARIAN SOCIETY.

This Society was formed two years ago. The first year there were only a few members, it not being generally known. The second year, having advertised that such a Society existed, and it being more generally known among bee-keepers, our members amounted to about eighty, a few of them being nominal.

The Society was formed for competition with honey in the comb in boxes, globe honey, and run honey.

When I mention boxes, it may be as well to let you know that they are Stewarton boxes; as the most of our apiarians in and around Kilmarnock are adopting the Stewarton system.

Our Show was held in August; and having advertised £4 10*s*. worth of prizes, and it being what we call a good bee year, we had an excellent gathering—upwards of thirty-five boxes of honeycomb, and, in most cases, without any brood; the boxes weighing from 18 lbs. to 35 lbs.

I am sure it would have delighted some of your correspondents to have seen upwards of 800 lbs. of honeycomb, of the finest quality, shown in one room.

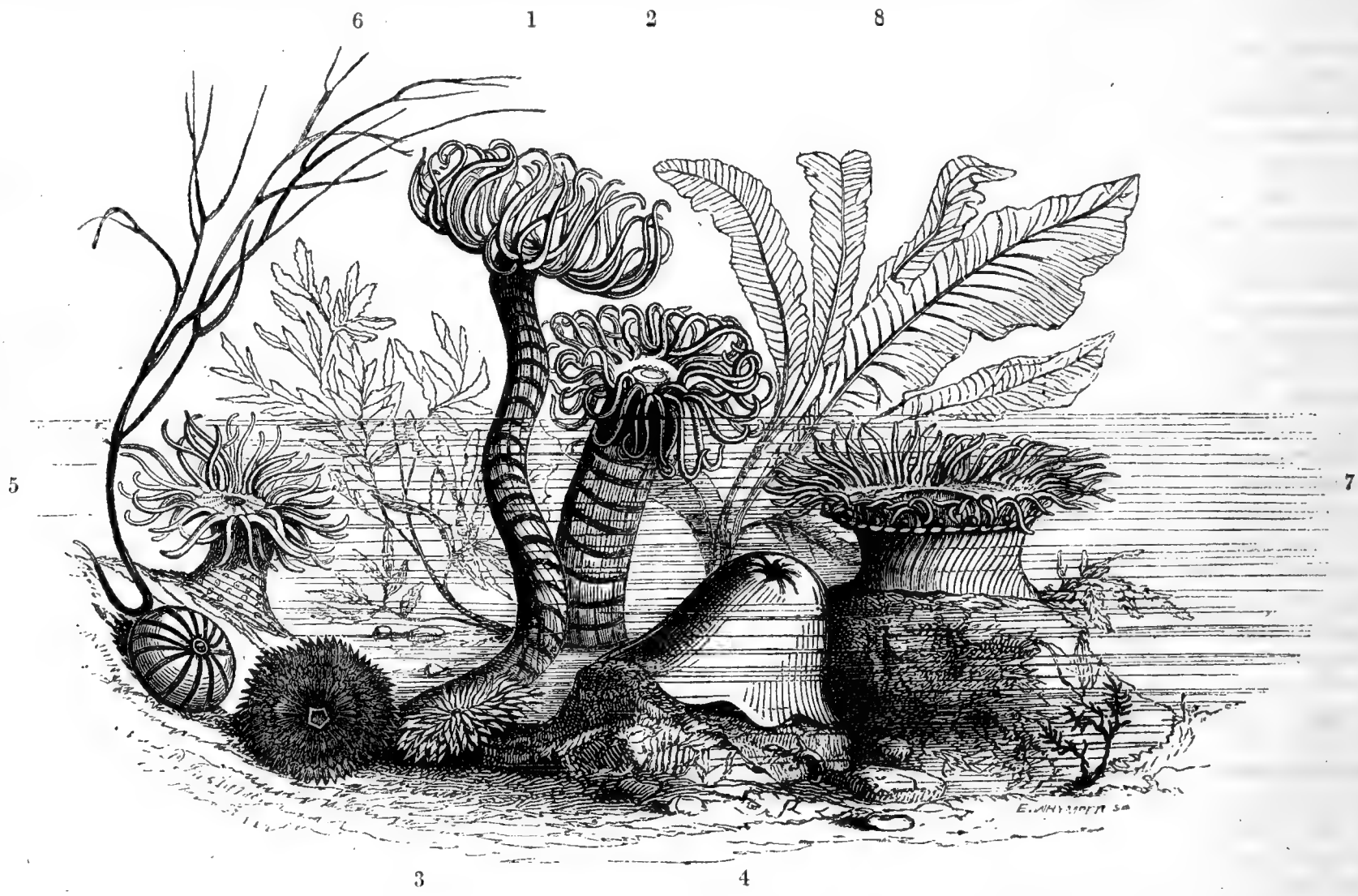
I merely write this, thinking it would interest some of your readers, and to let them know what we can do in Ayrshire. They must not be under the impression that *all* our boxes were shown, for some members had as many as six and eight boxes, and only showed one or two of the best.

I would recommend apiarians to give the Stewarton boxes a trial, as you get much purer honey than from the common beehive. It is nicer for the table; or, if disposed of, you get a longer price for it.—John Cadzow, *Kilmarnock.*

SEA FLOWERS.

This cold weather is rather adverse to the full enjoyment of water scenes, and to talk of shoal gatherings, and brook dragging, might make delicate folks shrug their shoulders; but I find it very agreeable to stir the fire with one hand, while with the other I point my friend to a pretty collection of Sea flowers, lately fished for me on the French coast. Lovers of the aquarium should know that the available stock is no longer confined to the species indigenous to our own shores, and it may be a bit of welcome news, if I here make known one of the plans now adopted for securing specimens from other coasts. The idea originated with Mr. Hall, of London Wall, who opened a subscription list, to which all subscribers of a guinea were entitled to a guinea's worth of foreign gatherings. With the subscriptions in his pocket, and a pair of water boots on his legs, Hall steamed away, and at last found himself treading the sands on a chosen spot of the French coast, where Actinia abounds. With a plentiful gathering he returned, and at once distributed to his subscribers a proportionate number of specimens, in liquidation of their subscriptions, and my share of the booty has been delighting me for six weeks past, and it is with no small pleasure that I contrast their novel forms and colourings with those from our own coasts, and from which they differ much more than might have been expected. Bright orange and amber, delicate opal, or intense snowy white, are the predominant colours; and although it is easy to detect in many the closest possible alliance with well-known species, of which they are but delicately-coloured varieties, others have such distinct characteristics, that it cannot be doubted the lists of species admitted to our tanks will soon be considerably increased. When Mr. Hall goes off to make his next gathering, I purpose making arrangements with him, with a view to determine the genera and species distinctly before the gatherings are distributed, and if we can get him to push on to the Mediterranean this summer, we may, in our aquarium studies, manage to keep pace with the horticultural world; the glory of which is its bold ignoring of both latitude and longitude, in the appropriation of specimens for culture.

Sea Anemones are the kinds of stock which take precedence in the culture of the marine aquarium. There is much certainty attendant on their preservation, immense variety, as to their forms and colours, and they admit us to their own peculiar region of Protean changes, so that we never fatigue of observing their habits, or admiring their changing beauty.



In the subjoined cut are represented four of the best Sea Anemones, whether for a beginner or an adept. In the richest collection the common "Mes," or *Actinia mesembryanthemum*, is as valuable as the rarest, on account of its intrinsic beauty, and as to hardiness and longevity, no creature of the deep, ever yet brought within domesticating influences, can equal it. When all goes wrong, and the pretty creatures drop from their stony pinnacles and perish;—when the water gets putrid, and, perhaps, half a dozen degrees of specific gravity too dense—"Mes" will still be found alive and unhurt, and will display its coral fingers and bright blue beads the moment he is lifted into a purer element. This is known by many popular names, of which the most common is "Strawberry Anemone," for the most plentiful form of it is that which strongly resembles, when closed, a well-grown *Sir Harry*. But it has so many varieties, that for mere effect this species is, in itself, sufficient for a small tank. In its most common form it is spotted on a crimson ground, Strawberry fashion; in another it is of a deep maroon, without spots. There is another variety of a deep quiet chestnut; another of a dark olive green, and a rarer and exquisitely beautiful one of a very bright, almost grass, green. I have sometimes managed to get one or two specimens of each of these varieties together at the same time, and by a little manœuvring to have them all expanded, side by side, and their distinctness and variety had a most charming effect.

But there are other reasons for commencing the study of marine objects with the well-known "Mes," for its habits give us the key to the general management of collections, and its anatomy illustrates the internal construction, and physiological economy, of the whole class of Zoophytes. Take a plump "Mes" that has not been handled, or in any way ill used, and cut him clean in half, vertically, and drop each half into a vessel of fresh sea-water, that has been agitated well; throw in also a tuft of Ulva; leave the divided victim alone for a week in a very partial daylight, and you will be surprised to find, that each division has become a perfect animal. Then either lift out the specimens into fresh sea-water, or draw off the water they are in, and agitate it in the open air, and return it quickly, and each will at once expand, and present as perfect a shape and arrangement of parts, as if their several origins had been distinct, and no relationship existed between them. The experiment illustrates the nearness of this tribe to the vegetable kingdom, and justifies the collective term Zoophyte, as applied to the various divisions of this lowest section of the animal kingdom.

One very striking characteristic of the Sea flowers, is their capability of changing their forms, and this is in no species so powerfully exemplified, as in *Sagartia anguicoma*, of which there are three specimens, in different stages of expansion, represented in the cut. This is a most valuable aquarium species, and may be preserved for almost any length of time, if properly tended. It has one bad habit, and that is, that it will frequently let go its foothold, and lay prostrate on the pebbles, so that the slighest agitation of the water may spin it into some crevice among the rockwork, or send it bouncing against the glass sides. Its colouring is very quiet, grey, buff, pale brown, and opal white predominate; and the markings of the disk are generally pleasing and delicate. Its long flexile tentacula catch the eye of the most indifferent observer, and the patient watcher finds his reward in its many extraordinary changes of form. When you receive specimens packed in wet sea-weed, they are like little buttons of dirty white gelatine, but in less than half an hour after you drop them into the tank, they throw up their tall stems, and expand their long delicate tentacles in most various ways, so that among fifty specimens, there will not be two alike; and yet in every stage of presentation, there is not the slightest difficulty experienced in determining what they are. Sometimes they take it into their heads to lie full length altogether unattached, now contracting themselves to a mere pimple, then blowing out the disk, and contracting the base, and at other times assuming a regular spiral form, like a fleshy corkscrew; but the tentacles are almost always expanded, be the shape of the creature what it may.

The base of an Anemone, which corresponds very closely to the organ of adherence in a snail, or perriwinkle, is the most delicate part of the whole structure. Though hard and leathery, in some species almost horny, it must never be in the slightest degree injured; like Achilles, the most vulnerable part of an Anemone is the foot, and though most species take little note of the loss of a few tentacula, and will even mend a hole in their jackets if an accident occurs to them; an injury to the sucking base is pretty sure to prove fatal. When first introduced to the tank, Anemones usually lie on their sides for a few hours, though they generally expand the disk at once; after awhile they get hold of whatever their base is nearest to, and if they are healthy, they soon hold tight, and have little disposition to move about. In a vessel now before me, there are nine out of twelve Actineæ that have not moved the tenth part of an inch during the last six or eight weeks, but a couple of *anguicoma* have been all that while, and long before, perpetually on the move; and one has now ensconced himself in a dark hole which he is endeavouring to illuminate with his splendid snowy stars of moving tentacula. *Bunodes clavata*, here represented, is one that seldom stirs from its original site; and, when well placed to show off its beauty, it conveys to the mind an idea of a flower carved in ivory, by the most cunning fairy fingers. The specimen from which this has been sketched, has been seated on a block of granite since the 10th of December last, and in that time it has perceptibly grown, and appears to increase in beauty every day. It is nearly always expanded, very seldom indulges in contractions, and has a first-rate appetite. But the most perfect resemblance to a true flower, is that presented by *Actinia bellis*, the sea Daisy, of which there are many beautiful varieties, all of them moderately hardy. This and *Clavata* require the water to be kept very pure, and well aired; a few days neglect of the vessel may result in their death, and the demise of one specimen, if not detected in time, may lead to the ruin of the whole, and a general break up of the collection, so that those who desire to enjoy the presence of these rare Sea flowers, must be vigilant in their attentions.

The numbers on the cut refer to the specimens as follows:—1, 2, 3, *Sagartia anguicoma*, or snaky-locked Anemone, in three different states, the last being shrunk up; 4, *Bunodes clavata* in its ordinary force of expansion; 5, the common "Mes" expanded, and closed; the row of heads resembling torquoises which surrounds the tentacles, is peculiar to this species, and adds vastly to its beauty, especially in the rose and coral-coloured specimens; 7, *Actinia bellis*, the sea Daisy; 8, the lovely red *Alga delesseria sanguinea*, drawn from a very fine specimen; the plant on the other side is *Furcellaria fastigiata*, 6, one of the few purple Algæ that may be preserved in small collections.—S. H.

MEETING OF THE BRITISH POMOLOGICAL SOCIETY.

A meeting of the British Pomological Society was held on Thursday, the 4th inst. Robert Hogg, Esq., Vice-President, in the chair.

F. E. Robinson, Esq., Stonefield Rectory, Woodstock, was elected an ordinary Member of the Society.

Although an opportunity was again afforded to competitors for Mr. Scrutton's prize of Three Guineas for the best six dishes of Pears, none appeared; the lateness of the season, and the bad-keeping properties which the best varieties of Pears have almost invariably exhibited this year, being a very satisfactory reason. Still, there was a good exhibition of fruit, and a respectable attendance of members. Some of the fruit was what remained over from last Meeting, and among these were the following:—Mr. Hill, of Keele Hall, Staffordshire, sent Josephine de Malines. These were well grown, fair average-sized fruit, and well coloured; but the flesh was hard and coarse, with the texture of a Turnip; the juice sweet, and without any flavour: in every respect very inferior fruit. The same may be said of Ne Plus Meuris. But Beurre de Rance was very tender and melting; very juicy, sweet, and well-flavoured. Now, when in perfection, the two former are superior Pears to the last, though they do not keep so long: still, in flavour and texture, they are superior; and the question arises, what are the circumstances that have induced such a condition in the first two, without having the same effect on the last? It is one of the objects the Society has kept in view, from its institution, to investigate such questions; and the Assistant Secretary was instructed to ascertain from Mr. Hill the circumstances of soil, altitude, climate, and exposure, under which they were produced, and to report to the next Meeting.

Mr. Wighton, of Cossey Park, near Norwich, sent specimens of Easter Beurre, Beurré de Rance, Jean de Witte, Susette de Bavay, and Knight's Monarch, the intention of which was to show how, under the circumstances adopted, these varieties had kept. Mr. Wighton, in a communication, stated that they had been exposed to the weather since the middle of December to the 1st of March, and, in several instances, subjected to 6° of frost, the only covering being a broken handglass, merely to keep off the birds. All the varieties were in the most perfect state of preservation, and as hard as when they were taken from the tree; when cut they were perfectly immature, and did not exhibit any present symptoms of ripening, except *Susette de Bavay*, which was ripe, juicy, sweet, and of good flavour.

John Burgess, Esq., of Holme Pierrepoint, Nottingham, sent several very nice specimens of Bergamot Esperen, the flavour of which was completely spoilt by being packed in bran. They were perfectly ripe, quite juicy and melting, but the flavour was entirely superseded by that of the bran. It is a difficult matter to get a good, cheap, packing material, that will not communicate a flavour. We have seen packages of fruit rendered perfectly worthless by such packings as moss, tow, flax-dressings, and bran; the only substance which seems to be destitute of these bad properties is cotton wool, commonly called "wadding;" and we have been told that the catkins of the Beech tree are also well adapted for the purpose. If some of our members would test this material during the next season, and report, the information would be serviceable.

Dr. Davies, of Pershore, sent a large Pear, under the name of *Catillac*, which was Uvedale's St. Germain; and also specimens of Ne Plus Meuris, which were not well flavoured.

Mr. Rivers, of Sawbridgeworth, sent specimens of three varieties that rarely ripen in this country; but when they do, are valuable, on account of their late-keeping properties. In the present instance, there were specimens of all three ripe. Léon le Clerc de Laval was quite ripe and melting, but quite void of flavour. Beurre Bretonneau was also

quite ripe and melting, excellently flavoured, and with a good Melon-like aroma, not unlike that found in *Knight's Monarch*. Prévost was melting, very juicy, and, though considerably astringent, it had a good deal of flavour, which was remarked to be like that of *Bishop's Thumb*. Even its astringency was not unpleasant.

Mr. Lane, of Berkhampstead, had specimens of a Pear known by a great many names—Spring Beurré, Black Beurré, Buchanan's Spring Beurre, and, we believe, Verulam. It is a very late variety, keeps remarkably hard and sound, and, it was stated by Mr. Paul, that, in some parts of Hertfordshire, they are ripened in the hotbeds.

Of Apples, there were also several collections. Mr. Wighton, of Cossey Hall, sent White Pippin and Norfolk Beefing that had been kept in the same way as the Pears. The *Norfolk Beefings* were in excellent preservation.

Dr. Davies sent the Old Nonpareil in good condition, and well coloured. Scarlet Nonpariel was past its best, having become dry and meally. Comberton Pearmain and Bromley were not considered good; the latter is, doubtless, a good sauce Apple, but the Meeting has no opportunity of judging of the merits of such varieties. Through the same gentleman specimens of the Martin Nonpariel were received from John Whittaker, Esq., of Caldewell. This is a very excellent variety, so late in the season, and was raised at Martin Hussingtree, near Worcester, by the Rev. George Williams, some years ago.

Mr. Lane, of Berkhampstead, had several varieties without names, none of which were of any value, except No. 1, a variety grown in a cottager's garden at Berkhampstead, which was highly approved by the Meeting. It was quite hard and firm, tender-fleshed, with an excellent flavour, recommending it for the dessert. Also, Brownlee's Seedling Russet, in the same collection, was proved to be a late Apple of first-rate excellence, and appears to be equally well adapted for cooking, and for the dessert. This is well worthy of extensive cultivation.

Mr. Pearson, of Chelwell, near Nottingham, brought specimens of a dessert Apple called Keddleston Pippin, a variety of very superior excellence. The specimen, though shrivelled from being carelessly kept, possessed very high merit, an excellent flavour, and aroma. Mr. Pearson stated that he considered it the best dessert Apple in cultivation; but the specimens being in bad condition, the Meeting could not form a sufficient judgment of its merits; still, there was enough to convince all present that it is a very valuable variety.

The Seedling Apple from Mr. Chapman, of Isleworth, was not considered of any value. That from Messrs. Youell, of Great Yarmouth, called Webb's Kitchen Russet, was highly approved, and fully maintains the high character formed of it at the last Meeting.

The next Meeting will be held on the 6th of May.

QUERIES AND ANSWERS.

PLANTING A YEW HEDGE.

"I want to plant a Yew hedge—both as a *screen* and for the sake of *shelter*. Will you be so good as to let me know what sized plants I should get; when I should plant them; and how; whether in a single or double line? Will they grow under other trees? And when planted, at what time of the year ought they to be cut in?"—R. H. C., *Shropshire*.

[You may plant the Yew hedge now, or any time to the end of April. Let the plants be not under three feet, and as much higher as you should like to afford. After three feet high, the price increases according to the length of the plants; but the price of a hedge will not rise in the same proportion, as the larger the plants are, the more room they take up, and the fewer of them will be required. The Yew will grow under trees, and in the shade; but if the roots of trees are allowed to rob the ground, from the roots of newly planted Yews, the hedge will suffer very much that way. Trench the space for the hedge full two feet deep, and four feet wide, and that space would take a hedge six feet high at once; but, if you buy Yews over four feet high, the best plan would be to contract with a nurseryman for the plants and planting of them, and the responsibility to rest on him for the first twelve months. April is the best time to clip Yew hedges, but newly planted ones, and very young plants, should be thinned also during the first fortnight of July. The distances at which to plant hedge plants from one another, is regulated by the size of the plants. Yews ought to be closer than merely touching each other. If you could mulch the hedge, and give it abundance of water the first summer, such treatment would well recompense you.]

PLANTING FOR SHELTER ON THE NORTH COAST.

"A friend of mine has a house in a high and very exposed situation, on the eastern coast of the kingdom, where he has all the winds of Heaven beating upon him. The N.E. and E., blowing off the sea, are particularly severe. I tell him that, with a little care and consideration, he might raise up a good defence against these breezes, which are so trying in the spring months. It has occurred to me, that if you would be kind enough to ask the assistance of some of your readers, residing on the coasts of the north of England, or Scotland, who have added experience to theory, much benefit might be derived from it; and we should come at the knowledge of what plants to use in *all other exposed* situations. If you receive many communications from these localities I have pointed out, a digest of them, combined with your own knowledge of the hardiness of plants introduced at an early or late period, would form an excellent subject for a paper in your interesting periodical, and likely to prove beneficial to many gentlemen, who, though approving a sea-side residence, find the breezes, at certain seasons, rather trying to the health of themselves and their families.

"One of the best trees I know of, to withstand the sea breeze, is the Sycamore, and, it appears to me, that were a person to plant a double row of them as a fence, clipping the sides from the first, and suffering the leading shoots to rise up, a defence would be formed, in the first instance, behind which the Hawthorn, and other plants, which cannot bear uninjured piercing blasts of wind, might be raised as a second hedge. If a third were desirable, it might be the Holly; and afterwards the common evergreens, Pines, and shrubs, might be planted as a regular shrubbery. I have no doubt they would flourish, and, altogether, form a capital defence against the winds. Trees and shrubs, exposed to the sea blasts, appear as if cut by an instrument. Where my friend lives, which is within a few hundred yards of the sea, the Hawthorn in the hedges is miserably deficient as a defence, and the Oaks in the hedge-rows are shorn off, as if the intention of the owner had been to form bowers, open to the south and west.

"You may have received papers for your periodical before, on the hardiness of trees as a defence against the winds; but, perhaps, they have had in view southern, or comparatively warmer situations, and so would not prove so useful as a paper on the subject being capable of being acted upon in the north, whether upon the coast, mountain, or moorland."—A Reader of the Cottage Gardener.

[We have not attempted to answer this letter, because we wish for information from those who have had experience in planting in such situations. We shall be obliged by any of our readers sending us information, and the more replies we receive, the better we shall be pleased. It will be very useful knowledge.—Ed. C. G.]

PLANTING POTATOES WIDELY APART.

My time of planting is the last week in April, or the first week in May, according to the state of the ground, for the second earliest and late sorts. I plant whole Potatoes of the middle size, with strong sprouts of nearly an inch long. I plant very shallow, covering the sets with a shovel of a mixture of lime, soil, ashes, &c., which I have prepared some months before using; my distance of planting is a yard every way. I earth up the Potatoes when required, with a rake ten inches and a half wide, having nine flat teeth, four inches long, well curved. This earthing up answers much better than with a hoe. I do not use a spade in preparing the Potato ground in autumn, but a fork of seven inches broad, with five narrow flat prongs of nine inches long.

I adopted this yard-apart plan two years ago, as I did not want many Potatoes; but, the result proved, that I had a larger crop than if I had planted in the customary way. My garden soil is good. The yield last season was over 100 sacks the acre; but, I believe, it would have been considerably more if it had not been for the very hot dry weather in June, which I thought was against the wide planting.

Last year, I planted on the 25th April (the ground being in excellent state), and took up the crop on the 25th August. The disease amongst them was moderate, say about four per cent. The Potatoes of my neighbours, right and left, were much more diseased than mine. This might arise from their ground being kept too wet with the thick covering of the tops of Potatoes, as a natural consequence from the close planting system. Two or three Potatoes, which had remained in the ground all the winter, when taken up at the getting up time (25th August), had the haulms looking remarkably healthy, but the Potatoes were mostly affected by the disease.

From this circumstance I am led to believe, the disease commences with the Potato, and not with the top, as is generally considered.

There are several advantages attending this wide planting, as much less seed is required—an important consideration when good seed is scarce and dear. The labour of planting and getting up is much diminished, less injury is done to the ground, and less management is required. I mark the ground so as to plant, the coming season, between the rows of last year's growth. If trials of both plans of planting were made on the same quantity of ground, a right knowledge might be gained which plans proves the most profitable.—W. S.

TO CORRESPONDENTS.

Flower-garden Plan (*Constance*).—Again we must repeat, that we cannot plant gardens we have never seen. All that we can do is, if you send us a plan, with a statement how you intend to plant it, to point out any striking defects in the arrangement.

Storing Potatoes in Sand (*H. R. D.*).—Potatoes thus stored, if the sand outside is four inches thick, and a little straw sprinkled over it, and under a shed, will not suffer from frost. The sand need not be perfectly dry, but the drier the better. About as much sand as Potatoes will be required, as they must be in alternate layers. The Potatoes only one deep. We have had the heap six feet high.

Espalier Fruit Trees (*Tyro*).—We never before heard of a tree on each side espalier rails! They must keep the sun and air from each other. Those from one side should be removed. Dig a trench two feet deep between the Asparagus-bed and the stems of the trees, at about three feet from the latter, cut away all the roots growing in that direction, and at that distance. Then fill the trench with flints. This will probably check the over-luxuriance of your trees, and induce more bloom next year. Much, however, depends upon the proper pruning and training. You will see our list of "Manuals" among the advertisements last week.

Golden Stonecrop.—"Seeing you mention the Golden Stonecrop in this week's Cottage Gardener, and having a supply left, should any of the readers of The Cottage Gardener wish to possess it, I will send it on receipt of a properly addressed pre-paid envelope, to R. S., Staincliffe, Dewsbury, Yorkshire; and if any of the numerous applicants to whom I have sent it did not get it safe, they may apply again."

Errata.—At page 340, "subtracting" is spelt substracting. In last line but one of the same page, "a ring of copper, or iron tube," should be "a *cone*, of copper, or iron tube." I should have mentioned that the course of the air in the chambers is as follows:—"In the hot-air apparatus, the gas burner J is supplied with air, entering between the foundation bricks. When fouled, it passes off through the flue, imparting caloric to the hot-air cylinder, and the atmosphere surrounding the egress pipe. The cylinder C is, in its turn, supplied from spaces at O. The incoming air being charged with warmth from the heat receptacle R, leaves the iron chamber; and is given off to the atmosphere of the house through the perforated cover; pure, and of an equable temperature."—Edward A. Copland.

Dahlias (*A Subscriber*).—To obtain Dahlias true to their name, you should apply to a florist who is a grower as well as a dealer. He proves the kinds himself. We cannot mention the name of any particular dealer, it would be, as you say, *invidious*. The boxes for shading and exhibiting may be made by any country joiner. We do not know of any that are made, purposely waiting for customers. Some Dahlias produce more branches than others, hence such require thinning, and the side shoots should have separate stakes, especially in exposed situations. If your situation is sheltered, your plan of reducing the branches to two or three, and tying them to the central stalks by long strands of garden mat, is a good one, and you may do so without subsidiary stakes. Dahlia seed should be sown immediately in shallow pans in a gentle heat, and as soon as the plants are large enough to handle, transplant them singly into small pots. In June plant them out in the open border, and they will flower this year. Mr. Appleby will give, very shortly, a list of the best new varieties for this year, and also a selected list of older varieties, such as have proved worthy of cultivation.

Names of Plants (*L. R. L.*).—Your plant is the oldest of all the Correas, *Correa alba*, an evergreen greenhouse shrub from Australia. The choicest kinds are generally grafted upon this species. (*J. R.*).—The specimens of Ferns are so dry and imperfect, that we can make out nothing concerning them. They should be fertile specimens, and have some damped moss in the box with them. (*G.*).—The enclosed nuts are the seeds from the fertile catkins of your *Cedars*, namely, the *Cupressus sempervirens*, on which we have no doubt you would find many very pretty hard stobiles, or catkins, or cones, whichever you like to call them; and what you observed last summer were the sterile catkins, which are deciduous. This tree belongs to the Monœcia class of Linnæus, bearing two kinds of flowers on the same plant. And these male blossoms, or catkins, are often blown to a considerable distance at the time of their maturity.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

June 28th, 29th, and 30th, and July 1. Sheffield. *Sec.*, Wm. Henry Dawson, Sheffield.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

POULTRY AND THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

The rumour has spread in the poultry world, that these indispensible occupants of the farm yard are not to form part of the Royal Agricultural Society's Annual Exhibition, after this year. We have heard, and we believe, that routine is powerful among the Council, and their decrees are intended to be of the Mede-and-Persian school, that they change not. Feeling that we are the mouth-piece of the many interested in the pursuit, we approach the subject in the hope that, *if it be possible*, some change may yet be made.

The Royal Agricultural was *dragged* into giving Poultry Prizes, because it was a want of the times, and was imperatively demanded; but it always coquetted with them. It loved the profit, but appeared to be ashamed of the source. The entry for a cock and two hens was clogged with as many difficulties and forms, as if they were three "Master Butterfly's," and any little explanation, or remonstrance, was met with the formidable "we." To suggest an alteration, was to attempt to dictate—all were prepared to admit it was profitable, but, with few exceptions, none in authority entered into it. All seemed to consider it derogatory!

Ask any one who was at Salisbury, which part of the Show was most crowded, and they must tell you it was the poultry. The same has been observed at *every* Meeting.

It was openly stated at the dinner at Salisbury, that the Annual Meetings were a heavy loss, and that every friend of the Royal Agricultural Society should exert himself in its support; and yet, in the teeth of this, a part of the Meeting that has never been otherwise than profitable is to be given up! What is the reason assigned?

The addition of poultry, to the yearly Show, has brought many subscribers to the Society, and has always greatly increased the number of visitors. It gave an interest in the Society to many, who had nothing in common with it, so long as visitors were confined to quadrupeds and agricultural machines. It extended its usefulness by gaining additional subscribers, and increasing its means. Those who have watched these Shows from the first, ask themselves, what can be the reason assigned for such a resolution?

One only can be imagined. That the entries were not sufficiently numerous; but the cause of that is easily ascertained. The papers to fill, and the forms to go through, have been so complicated as to frighten and deter many a good exhibitor; and at the last Birmingham Show, a paper was drawn up for presentation to the Council, and signed by many influential exhibitors, pointing out the alterations which would make the Poultry Show of the Royal Agricultural one of the largest in the kingdom. These rules involved no responsibility whatever, and would have greatly increased the profit to the Society. The only answer is, "This will be the last Show."

The poultry world will not suffer. Wherever the Royal Agricultural Society of England holds its Meeting, there will, at the same time, be an exhibition of poultry. We promise the Society that, and we believe the Society will be a loser, in admission money and in subscribers, by the course they

threaten. Still more will it lose, by casting off a body which it should foster and encourage.

The Society's usefulness is founded on bringing together as many people as possible, and in showing to them the perfection to which everything connected with agriculture may be brought, by a judicious system of competition. Does the Council intend that but one class shall benefit, or does it wish to promulgate the idea, that poultry is beneath the notice of an agriculturist? If it does, it falls short of its duty, and limits its utility. At the Meetings, the results attained by wealthy experimentalists are openly shown, for the benefit of those less favoured by fortune. Many a man would exhibit oxen, sheep, pigs, or horses, but he cannot afford do so; he is not a less useful member of the Society when he shows poultry. Many an honest and superior, though needy man, hails gladly the help afforded to him by his poultry; he will patiently work on till he arrives at cattle. It will, however, now be well such should know they have nothing in common with the Royal Agricultural Society; that it has nothing to do with poultry, and that it does not recognise it as part of the stock of a farm. The line is drawn, and prizes cannot be offered for anything lower than a pig, or a spade.

WELLINGTON (SALOP) POULTRY EXHIBITION.

Few Poultry Meetings have ever been carried out with a shorter public notice, than the one just concluded at Wellington; whilst none, that have yet been held in Shropshire, have equalled it, either as to general aristocratic support, or the universal superiority of the poultry exhibited. Such result must, indeed, be most gratifying to its promoters; more particularly, when the high position Shropshire has, for a long series of years, maintained as to its poultry for "table purposes," is considered. There are but few counties, too, that can now produce so generally superior Exhibition birds, and the meeting just closed proves the determination of the surrounding amateurs still to maintain, if possible, that superiority. Easy of access by railway, the number of visitors was proportionably increased, and we cannot doubt, judging from appearances, that the amount received at the doors has been satisfactory. Much credit is due to the indomitable perseverance of the Honorary Secretary, Mr. Jones, for the excellence of the arrangements; and the courtesy displayed by him, to every applicant for information, was as generally acknowledged. It is the combination of these little items that make success certain, or mar the prospects of every Poultry Show; and no doubt exists on our mind, that the Wellington Exhibition owes much of its support to the prompt and unvarying attention of the gentleman alluded to. On one point, however, there is evidently an objection easily capable of improvement, viz. not permitting any prize or commended birds to be "claimed," at the opening of the Show, at the prices specified in the catalogue; but, contrariwise, retaining them to pass the ordeal of an auction at a later period of the day, in the hope of obtaining an improved amount of sale prices. Our long experience in these matters convinces us, however, beyond all doubt, that superior Exhibition poultry is never disposed of so rapidly, nor so well, as at the spur of the moment when the Exhibition *first* opens. It is then that the rivalry, to become the future owners of certain pens, rises to its utmost pitch, and sales are continuously going on; whilst, on the contrary, a later period of the day as frequently brings with it more time for reflection, and emulation as proportionably "cools down."

The poultry were arranged within two very excellent tents, which afforded every necessary protection to both the birds and visitors, and the light was excellent and equal. The adornments were profuse, with flags of all nations; the coats of arms of nearly every nobleman and gentleman in Shropshire, and numerous mottoes, printed on large pieces of calico, attracted attention on all sides. Among these we noticed "God save the Queen," "Success to the Town and Trade of Wellington," "Success to the Wellington Grand Poultry Show;" and, at the entrance, a giant strip, bearing this inscription, "Welcome Strangers to the Town of Wellington." The Show being actually within a stone's throw of the railway station, added very much to the comforts of those visiting by train, and the access to it by private carriages was equally good. The weather told very favourably, and it is rarely any Show has been carried out so successfully.

We must now take a glance at the various classes. The entries of *Spanish* were few; and, with the exception of the winning birds, deserve but little remark at our hands. Not so, however, with the *Coloured Dorking* class; an extensive entry was here combined with an aggregate of general excellence, very rarely attained, and the names of most of our principal breeders appeared. To what extent the improvement of *Dorkings* can really be carried, seems now most questionable; year after year weights, deemed almost fabulous heretofore, only give way to still further progression; and the hens of the first prize pen, at Wellington, will not be very readily forgotten by the company assembled: they were the variety called *Silver Greys*, a strain to which public opinion has recently been directed, as never affording the possibility of success as to *size*, if competing with their darker feathered or spangled rivals: they were, however, of colossal proportions, of perfect symmetry, and shown in plain breeding condition. They were the property of Mr. William Bromley, of Birmingham, "bred by himself," and we are informed had not been previously exhibited. It is almost needless to speak of the well-known excellence of the second prize pen (Captain Hornby's), or of those exhibited by Lord Berwick, who attained the third post of distinction on the prize list. The *Game* classes were a triumph to any Poultry Meeting; and although Messrs. Moss, Smith, Dawson, Abraham, Sabin, Fryer, Onslow, and Jones, appear as the more fortunate competitors, there were numbers of pens far surpassing those we are accustomed to scrutinise at most meetings of the poultry fancy. The high condition of these birds was the subject of universal commendation. The *Hamburghs* were superior, the *Golden-spangled* having never mustered a more worthy collection. *Polands*, though the entries were few, were very good. We now come to *Buff Cochins*, in which class not a few of the best birds in the kingdom presented themselves. Want of "condition" here told a heavy tale; and it is needful to again impress on the minds of proprietors, that even these fowls (although by nature, perhaps, of the strongest constitution among our domestic poultry) will *not* endure repeated, indeed almost continuous, imprisonment at successive Shows, without not only loss of position, but a most serious injury also to their breeding properties. We noticed particularly two birds in this class, that could not even stand at the time of opening to the public, with feet deadly cold, and combs shrunken and discoloured. It is grievous to tax really good birds so heavily, and this leads to the expression of our high commendation of the care taken of the fowls (thus previously maltreated) whilst they were deposited at Wellington; had they been neglected, death must have ensued. There were many excellent *Cochins*, both *Partridge-coloured* and also *White* ones. The extra class contained very good *Rumpless*, *Black Hamburgh*, *Andalusian*, and *Brahma* fowls. The *Game Bantams* proved very good, as were the *Black* ones and a pen of *White* ones; but the *Sebrights*, although only a very few years since bred surpassingly pure in this neighbourhood, now showed unmistakeable symptoms of degeneracy. The *Rouen Ducks* were not so good as is usual; the *Aylesburys* were first rate, and as "happy" as it was possible for *Ducks* to be; for, being placed on the grass, they quickly made the interior of their coops perfect puddles, and their altered appearance possessed little cause for admiration. The *Single Game Cock* class was, however, the especial favourite of the public, most of the winning birds of the season being opponents. Success here again deservedly resulted to the highly-renowned stud of Gilbert Moss, Esq., of Liverpool. Numbers of amateurs travelled from considerable distances, simply "to have a peep" at birds now so notorious; and we heard many parties expressing their gratification at having so done. The very careful manner in which this gentleman's *Cocks* are "dubbed," is fully worthy of a passing notice, as being a most favourable feature to success in the Exhibition-room. Another not less important consideration, particularly in *Game Cocks*, is their "condition:" here all that art could do to insure superiority, had evidently been applied; still, in proof, how difficult the task yet remains, "to *retain* live stock in *extreme* excellence," was fully demonstrated. At Preston,

only about two week's since, the superior "condition" of the *then* first prize *Cock* was absolute and undeniable; yet even in that short interval re-action had resulted, whilst the bird taking the highest trophy at Liverpool, had "pulled up wonderfully" in the same time, and now again triumphed at Wellington. They are, indeed, both most covetable and meritorious *Game* fowls, and rivals well worthy of each other; but it strikes us strongly, that the present winner possesses by far the best *natural* constitution of the twain. We were informed by Mr. Moss's "feeder," that these extraordinary good specimens "are own brothers." This speaks well for pedigree. A perfect host of first-rate *Game Cocks* were entered, scarcely an indifferent one competing; the result was, a long list of Highly Commended and Commended birds, coupled to a foot note from the Judge, as to this class, "that a better show of *Single Game Cocks* was never exhibited."

Thus concludes, then, our report of one of the best Shows that have yet taken place in Shropshire; all parties interested evinced a disposition to do their utmost to promote success, and their object was unquestionably achieved.

The awards of Mr. Edward Hewitt, of Birmingham, who officiated as sole Judge, gave general satisfaction; and we cannot close without likewise referring most strongly to the unwearied personal attention, paid by the station master at Wellington, to the careful delivery of the poultry, both to and from the Exhibition; affording, as it does, a most pleasing and meritorious contrast to the careless indifference so frequently manifested by railway officials similarly situated, if a little extra trouble be, by any unexpected emergency, called into action in their duties to their employers. Had even the owners of each basket been present, the poultry could not have been more safely delivered both ways. We sincerely trust all future Meetings of this Society may prove equally praiseworthy and successful, for the energy just displayed well deserves such a result.

HEREFORD POULTRY EXHIBITION.

This was the last general Poultry Show of the season, and there cannot be a doubt that the present meeting, at Hereford, has far surpassed its predecessors, whether as to the amount of entries, or the general good quality of the birds exhibited. We cannot permit the present occasion to pass by, without the expression of our gratification also as to the weather; for, singularly enough, the first Hereford meeting took place under the most adverse position—all the railway lines being at that time "snowed up"—transit of any kind was impossible: and it may with truth be mentioned, that the second Show was accompanied by weather almost equally unfortunate: now, on the contrary, the brightest of spring days ushered in the morning of admission on this the Committee's third trial, and a very good attendance ensued. Much credit is, therefore, the just due of this spirited Committee, who have thus "pulled through" a series of difficulties that would, in the generality of similar attempts, have palled entirely renewed exertions.

We will now take a stroll through the Exhibition. The building this year selected for the purpose is exceedingly appropriate, viz., the Corn Exchange, yet scarcely complete; but offering an amount of general light, that is indispensable to a perfect Poultry Show. It may with certainty be stated, that Corn Exchanges generally offer advantages for Poultry meetings that few other public buildings possess; and we never yet knew a Society that regretted obtaining the temporary use of one; as their adaptation to the corn trade, of necessity, compels general and good light, without dark corners anywhere. Local authorities, also, will generally permit their temporary occupation, without any expense whatever. On entering, the *Spanish* class first came in view; these were generally good, but undoubtedly in much worse condition than usually exhibited. In *Coloured Dorkings*, the whole class was superior. The *Game* fowls were likewise very good, but not universally well matched, which proved fatal to many an otherwise excellent pen of birds. Another feature that prohibited success, or even competition for prizes in these classes, arose from particular pens being "*marked*" with string, or tape, tied round the legs; such pens being, by universal rule, "disqualified." Again, we cannot pass by another objection, that seemed generally unanticipated by their respective owners. It was evident that many and many a first-rate *Game Cock*, whose former prowess in the cock-pit had been well proved, and whose general demeanour showed how "ready and willing" he was to again engage in such trials of bodily vigour and endurance—lost all hope of triumph in the less boisterous competition of Poultry Shows, from putting in an appearance at Hereford, minus one eye. There were *numbers* thus situate, and excellent as they undoubtedly were in all other respects, a high commendation was their utmost reward. The *Cochins* were very good, but not a few pens contained "vulture-hocked" birds; a feature, of necessity, blighting their prospects altogether. In *Brahma Pootras*, very great irregularity existed; indeed, the premium for the Single cock of this variety was withheld. *Malays* have seldom been so well represented. The *Hamburghs* were excellent, but we would strongly suggest the inexpediency of various sub-varieties competing in the same class. The *Polands* and *Bantams* were not deserving of any special notice; the black *Bantams* were, however, the best class. The class for *any other variety* was well filled, and afforded much gratification to the visitors: excellent *Andalusians*, black *Hamburghs*, *Rumpless*, *Silky* fowls, and several other varieties, appearing as closely competing rivals for the appointed premiums. In *Single Spanish Cocks*, undoubtedly the best fowl was simply Highly Commended, from being so thoroughly "worn out" from age and infirmities, as not to be able to stand for many seconds together, whilst his eyesight seemed to as completely fail him; his "dejected appearance" was the subject of general commiseration among visitors, and produced many expressions of regret, that the "poor bird" should still endure the trials ever attendant on journeying to distant Exhibitions. The *Dorking Cocks* were good, but not large specimens. The *Game Cocks*, exhibited singly, were not equal to the male birds in the general classes. The *Cochin-China Cocks* were very good, but the *Brahma Cocks* were worthless specimens. One of the most singular features of the Show next occurs—the *Malay Single Cock* class; there were only two entries, but undoubtedly the very best two birds that have yet disputed superiority; whilst, most singularly, they were true and exact counterparts of each other; so much so that, after minute investigation, to distinguish them when apart was next to impossible. *Equal* first prizes were, therefore, awarded them, by the liberality of the Committee permitting this further call on their funds. Of *Hamburgh* and *Poland Cocks*, we cannot but speak highly. The *Aylesbury Ducks* were a perfect class, of high weights, and closely approximating, 20¼lbs, 20½lbs, 22¼lbs, and 22½lbs, being the respective weights of the four principal pens. *Rouens* were not good. The *Labrador Ducks* were very excellent, and the second prize (*any variety of Ducks*) were undoubtedly "the sorts of Ducks (as an agriculturist wisely observed) for the table;" they were very large, but inclinable to coarseness.

The *Pigeons*, though few in numbers, contained first-class Runts, Nuns, Trumpeters, and rather a rare foreign Pigeon, called the *Fire Pigeon*, the bright plumage of which was singularly attractive to the public: we were informed, they appear likely to breed well. The Cottager's competition was very good, and the birds generally bore strong evidence of having been well cared for.

The Cups offered for the best two collections were very superior, and intrinsically worth in sterling cash the sum they represented. The principal one was "twice over" won by R. W. Fryer, Esq., of Hereford, much to the gratification of the many friends who had witnessed his untiring perseverance in supporting this local Show. The second was awarded to three excellent pens, the property of Kilvert Bartrum, Esq., of Bath.

We must not conclude without expressing our entire concurrence in substituting bran, in lieu of sawdust, to secure cleanliness in the pens; as when fowls are long cooped on the latter, injury of constitution is inevitable: for this potent reason, sawdust is always to be avoided. The pens used were the registered Exhibition pens of Mr. Cooke, of Colchester; and the fowls were well provided for, in every respect.

Mr. Edward Hewitt, of Eden Cottage, Spark Brook, near Birmingham (as previously announced in the Hereford prize list), officiated as the Judge: and his awards were satisfactory. From present appearances, we have little doubt that the Hereford Show will improve annually.

We published the prize list last week.

MR. W. C. WORRALL'S HAMBURGHS.

I much regret to find, from The Cottage Gardener of February 23rd, that Mr. W. C. Worrall again, as last year, recklessly rushes into print, condemnatory of the awards at the late Preston Poultry Show. On the present occasion, however, confining his strictures more especially to the Golden-spangled Hamburghs.

Most poultry amateurs would have vainly imagined his very dearly-bought experience last spring, from the complete exposure of the utterly groundless complaints he then preferred against the Judges, would have exercised a somewhat lasting and salutary influence upon him, and prevented this second attempt to enforce statements equally apocryphal and incapable of justification; but the present result proves the contrary. The lachrymose style of "despair" he now assumes from not standing, as he evidently anticipated, A 1 at the Preston Show, and his acknowledgment that "his case is really pitiable," few will dispute; more particularly as, after "flattering himself his selections have been made with judgment," he immediately adulates "beautifully *laced* breasts," as the *sine qua non* of "*Spangled*" Hamburghs. Although well-understood, I will confine myself exclusively to Mr. Worrall's letter, as it appears on the surface, and confidently assert, if poultry Judges are to be thus wantonly assailed, and called upon to defend their honest opinions, simply to satisfy the caprice of parties who assume a knowledge they do not possess, no painstaking, and really conscientious, individual, who stands equally disinterested among all exhibitors, will accept office; and I, therefore, maintain such conduct is highly reprehensible in those discomfited exhibitors who attempt it; and, I feel assured, will never be tolerated to any extent by the generality of the poultry fancy. Again, when Judges are thus assailed, they may, with the most perfect reliance and consistency, remain silent under so discreditable an aggression.

I will allow Mr. Worrall's brilliant description of his own favourite Hamburgh to pass unnoticed, except as to one grave fault he admits as existent—"the comb being rather large." So large, indeed, is it, that a Yorkshireman would have exulted in its possession in a legitimate "Red Cap;" but nothing can be more preposterous in a "Mooney." The livid colour, too, of the comb of Mr. Worrall's Preston bird, was strangely at variance with the condition it was shown in at Liverpool, and was strongly indicative how relentlessly its owner taxes the physical endurance of his poultry, in the hope of adding to the Plate triumphs of his sideboard. Humanity would have rather suggested careful treatment at home, whether considered for the fowl's present comfort, or future restoration. But, on the other hand, I cannot permit Mr. Worrall's unjust remarks of the rival birds, he so particularly specifies, to pass unnoticed. Neither Mr. Jones's nor Mr. Chune's birds have "crooked combs," although Mr. W. thus confidently, in print, asserts it to be so. These fowls are always producible, to attest the error of such barefaced assertion. I regret and repudiate the ungrateful attempt of Mr. Worrall (as one of the Liverpool Secretaries) to hold up the awards of the Judges at his own meeting as perfection, and, by inference the most direct, imputing to the arbitrators at Preston, a not being "cognizant of the points of merit, or able to distinguish one sub-variety from another." This is suggestive of another remark, admittedly unpalatable.

The Preston Poultry Show is not to be obliterated from our annual meetings, to serve party purposes. Lancashire is an extensive county, and there is ample room for all its present Shows of Poultry to prosper well, independently of each other, provided they are fairly conducted. "Live and let live" is surely the most honourable order of the day. But, Mr. Worrall writes, at Preston "the Exhibitors of Game fowls have pleaded hard, and obtained *separate* Judges," and concludes by asking the same privileges for the Hamburgh classes, as an act of "great propriety." There surely could not be the slightest objection to this arrangement, in any instance, where the funds of the Committee sanctioned the consequent increased expenditure. At Liverpool, however, the Game classes were not the subject of specially selected Poultry Judges; and from Mr. Worrall having *himself* mooted the question of Game fowls, and being one of the two Secretaries, through whom the extremely valuable prizes for Single Game Cocks were offered to the public competition for this variety, will he kindly explain why the £40 premium, for the best Single Game Cock, was, at the time of the Show at Liverpool, assumedly awarded to a person of the name of Armstrong, yet is now advertised in the public newspapers as having actually been the attainment of his co-Secretary? No doubt, Mr. W. C. Worrall can easily clear up what, at first, appears so decidedly incongruous; and, to the community of poultry exhibitors, really difficult of explanation; but, as the circumstance just alluded to, has caused a great variety of speculative conjecture, no doubt, as far as possible, it would be the wiser policy, to obviate all future misapprehension by the open acknowledgment at the time being, of the individuality of the prize takers; and thus give no suggestive room for differences of opinion, as to the causes requiring concealment of identity in the first instance.—Golden Mooney.

BUYING EGGS.

I am glad to see some one has taken up the cudgels in the defence of egg buyers, as well as of egg sellers; and, if the whole truth were known, I think it will be proved that eggs are the worst possible way to get into any breed of fowls. I will give you the result of my experience. Last year I exchanged twenty-four eggs, with a breeder of some of the best birds in England, my own being equally good. The gentleman from whom I received them, I am quite sure, would not sell his honour for a rotten egg; from his twenty-four eggs, I hatched only four chickens; and, they proved to me, I was dealing with an honest man. I sent him the same number of eggs as I had received, and his luck was not better than mine; although I took the greatest care to send him the newest eggs. The distance sent was about 120 miles. Now, the inference to be drawn from this, must be, that if a buyer gives a guinea a dozen for his eggs, and half their hatched produce are reared, and turn out good birds, which my experience convinces me is a large allowance, he gives a guinea a bird, besides the expense of rearing; consequently he had better go to the Poultry Shows, and pick exactly what he wants. I also received twenty-four eggs of another breed, and from nearly the same distance, not one of which hatched; and these, I felt sure, were honestly sent, as the lady from whom I bought the first twelve, sent me twelve more in consequence of the first all proving bad.—R. B.

OUR LETTER BOX.

Golden-spangled Hamburghs (*A Constant Reader*).—It is difficult to give an opinion of a bird, judging from two feathers. If those sent are fair samples of the entire plumage, then we advise to breed from No. 1, presuming that the little fault in the shape of the moon is accidental. No. 2 are bad feathers. No. 3 are good, almost equal to No. 1. Choose hens with accurate spangling, and rather dark than light.

Dubbing Game Fowls (*Mary McDuff*).—The original purpose of dubbing was to remove everything that an antagonist could take hold of; but there were always two opinions: one left a portion of the comb as a protection to the skull; the other removed all. Our opinion is that the latter mode is the better. Comb, gills, and ear-lobes should all be carefully taken off; it is all superfluous. Nothing more is taken away; if it were, it would interfere with the action of the beak, and injure the fighting properties of the bird. The head should be clean as that of a snake.

Points in a Black Bantam Cock (*J. D.*).—A perfect black Bantam cock should have double comb, white ear-lobe, black legs, and long-flowing tail; the longer the better. But as perfection is hard to be attained, and birds forming a model pen generally remain in the class "desiderata," we do not advise you to be discouraged if your bird does not possess all these points fully devoloped.

LONDON MARKETS.—March 8th.

POULTRY.

There has been little change since last week, either in supply, demand, or prices.

	Each.					Each.				
Large Fowls ...	5s.	0d.	to	5s.	6d.	Wild Ducks ...	2s.	9d.	to	3s. 0d.
Small ditto.....	4	0	,,	4	6	Widgeon.....	1	9	,,	2 0
Chickens.....	3	0	,,	3	9	Teal.....	2	0	,,	2 3
Goslings	7	0	,,	7	6	Pigeons	0	8	,,	0 9
Ducklings	3	0	,,	4	3	Rabbits	1	4	,,	1 5
Guinea Fowls .	2	9	,,	3	0	Wild ditto	0	9	,,	0 10

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WEEKLY CALENDAR.

Day of Mth	Day of Week.	MARCH 16—22, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
16	Tu	Calceolarias.	29.995—29.944	54—25	S.W.	—	14 af 6	4 af 6	7 a 42	1	8 50	75
17	W	Carnations.	29.860—29.759	58—31	S.	—	12 6	5 6	9 8	2	8 32	76
18	Th	Princess Louisa born, 1848.	29.751—29.717	65—44	S.E.	—	10 6	7 6	10 38	3	8 15	77
19	F	Callistemon phœnicium.	29.830—29.880	56—47	S.E.	.08	8 6	9 6	morn.	4	7 57	78
20	S	Chorozema flava.	29.978—29.919	51—33	E.	—	5 6	10 6	0 8	5	7 39	79
21	Sun	5 Sunday in Lent.	29.998—29.980	41—26	E.	—	3 6	12 6	1 34	6	7 21	80
22	M	Chorozema varia.	29.856—29.732	45—27	E.	.01	1 6	14 6	2 44	☽	7 2	81

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 50.7° and 32.6°, respectively. The greatest heat, 69°, occurred on the 20th, in 1836; and the lowest cold, 16°, on the 17th, in 1845. During the period 133 days were fine, and on 84 rain fell.

LITTLE HINTS FOR LITTLE GARDENS.

So many inquiries and complaints, as to disappointments, have lately come in my way, that, to save room, I will throw them into different groups, and first as to the

Forcing of the Strawberry.

One "raised and potted strong plants in October, and put them in his forcing-house in December." A second did likewise as to potting, but "placed the plants, plunged in a hotbed for six weeks before taking them to his vinery." A third "grew the plants properly, in pots, in summer; protected them from rains in autumn, and severe frosts in winter; placed them in the house in January, and kept the plants rather dry, expecting that thus the showing of the flower-truss would sooner take place." A fourth did much the same, but "never allowed the plants to want for water, though the saucers should hardly ever be empty;" and all complain, that "if the plants show flower-trusses at all, they show them very weakly, spindling, or gouty." Several more correspondents think their failures must be owing to the kinds: these being chiefly, *Black Prince*, *Keen's*, and *British Queen;* and sympathetic advice is craved.

1st. *I will first advert to kinds.*—Than those named, I know of no better for general forcing. But they are not all alike suitable for early forcing; nor will they stand an equal amount of high temperature. The hardier a Strawberry plant is, the less artificial heat, in general, will it stand with impunity. Judged by this standard, the *Prince* will stand the least heat of the three. On this account, and also because the earliness of the kinds is somewhat in proportion to their hardiness, I advise the using *Black Prince* chiefly for the first; *Keen's* for the intermediate; and *Queen's* for the last forced crop. Unless for particular purposes, I would not advise the placing *Queen's* in heat, before March. The *Prince* may be set agoing, if deemed advisable, in November, or even earlier, provided the artificial heat to start with is not more than 45° at night, nor more than 50° until the blossom appears; not more than from 55° to 60° when the fruit is set, and swelling, with a rise of 5° during the day in dull weather, and from 10° to 15° when sunny, and after giving air. When fairly set, the fruit will swell in higher temperature, but you may expect the plants to be exhausted, and subject to spider and green fly, and the fruit to be soft and red, instead of black and firm. After the fruit is set, *Keen's* will stand 5° more; and *Queen's* from 5° to 10° more heat than the *Prince*. Extra heat, I believe, to be a fruitful cause of failure.

2nd. *Preparation of the plants.*—This, for early forcing, is a matter of first importance. Several assign as reasons why they lifted and potted their plants at once, the influence exercised over them by an able cotemporary, who ridiculed the fuss and bother gardeners made in preparing their Strawberry plants. In all such cases, it is best to refer for instruction and further information, to the identical party in question. It is quite heavy enough burden to carry the blame of misconceptions we have ourselves directly or indirectly produced. So far as I recollect, the discovery had reference to plants raised and potted at the end of March and April; a very different thing from doing it in October and November. Gardeners would not hesitate to do such a thing, even for early forcing, if they could not make a better of it; and especially if they could promote root action, by plunging the pots in a mild heat, while the Strawberry crowns were kept cool and airy; but, where is the gardener that would resort to such a plan from choice, and with the full expectation that hardly a single pot would prove unfruitful? If you wished a certain small Cineraria plant to show bloom in the autumn, you would let it get pot-bound; you would not think of transferring it to the open ground, or placing it in a large pot, to encourage the growing instead of the flowering principle. Would you have a Strawberry plant, in a pot, to show bloom early, not only should the pot be full of roots, but the plant should be more early matured than that growing in the open garden; and which will bloom naturally three or four months later. As yet, most of the great improvements that were to make gardening a matter requiring little forethought and care, have terminated in the disappointment of the extra sanguine. There can be no question, that in the circumstances described, the success of the plan adopted was ample. Confined to such circumstances and times, it might have added one to the many and great obligations, which gardening and gardeners are placed under, to the author. What has given rise to mistake and disappointment, was making a mere particular case the ground for advocating a general rule of practice.

Whatever, then, the age of the plants, be they young or old; whatever the mode adopted with young runners of the previous summer, whether laid in, or transferred at once to the fruiting pots, or laid in a small pot, and then repotted in a larger; some of the chief causes of success, in anything worthy of the name of early forcing, consist in having the plants thoroughly established in the pots early in autumn; the roots thoroughly interlaced through every particle of soil; the crown of the plant standing well up, and exposed to every possible ray of sunlight; no want of water, and rich water, too, so long as there is sun to evaporate it; no more water at the end of autumn than will keep the leaves from flagging; no runners at any time allowed; protection from heavy late autumnal rains; and security from severe frosts in winter, before forcing commences.

Such a course has two distinct objects in view. First, to secure strength and vigour to the plant; and second—knowing that mere luxuriance and vigour are not synonymous with, but often opposed to, fertility—to strive, by comparative dryness, and full exposure to sunshine in autumn, to get that vigour ripened and matured. Here I may just mention, that

too rich nourishment, or too much water when growing, is apt to make the main bud of a nice young plant divide into two or three; but I never expect these horned or divided buds to produce flower-trusses equal to the single undivided bud. Ripeness or maturity of the bud being essential, in order to secure that ripeness early, when early forcing is contemplated, I would again advise, for a part, at least, of the *Black Prince* and *Keen's*, to be so used; the placing them in four and five-inch pots, instead of those six or eight inches in diameter. I am speaking of placing only one plant in a pot. The larger the pot, other things being equal, the longer will it be before the maturing processes commence.

3rd. *General routine.*—Here, I allude, first, to plunging the pots in a hotbed. In the case supposed by our correspondent, where the pots were at once filled from the open ground, it would be useful in promoting root action, but air must circulate back and front, to keep the top of the plants as cool as possible. In unskilful hands, plunging suitably prepared plants in a hotbed, is apt to be dangerous, when the object is to remove them to a house to start early. It will be safer to place them in such a house at once, when shut up; and thus the plants will be brought on gradually, with the Vines or Peaches, &c., in the house. Gardeners, however, frequently bring forward the first crop in a slight hotbed, and do the same with the successive crops. At all times, but especially before February, great care must be taken that the heat is free from steam, and not high (not more at the bottom of the pot than 65°), but regular; and before the plants are moved to a shelf, the plants should stand for a day or two, on the bed, instead of being plunged in it. For want of this attention, I have seen the roots injured by excess of heat; and the bud excited at one time, and starved and damped at another, becoming rotten, shrivelled, or cankered; so that you might have some fine leaves, and no flower-truss. When I did much in forwarding early Strawberries this way, so as to get them to catch the right temperature in houses, that would not be started for some time afterwards, I found it of importance to set the pots in the frame on tiles, slates, or boards, whether afterwards they were covered round with the material in the bed or not. After the end of February, and the month of March, provided the heat in frames is not too strong, such precautions are not so necessary, as the natural flowering time is coming nearer. At an earlier period, the mere plunging in a moderate heat, and moderate moisture, without a hard standing medium for the pots to rest upon, is apt to encourage the mere growing, and to keep in abeyance the flowering principle. I have seen hundreds of pots thrown out as *blind*, showing no flower-trusses, because it was deemed needless to trouble about such trifles as these, and the following respecting—

4th. *Moisture* and *dryness.*—When the plants are in a state of rest, they should neither be wet nor dry, but nearer dry than soaking wet. When placed in a house ranging from 45° to 50°, they will not want watering often, unless the sun is powerful. If kept too dry, after excitement is given to growth, the bud will be dried up, and you may look for a flower-truss in vain. When watering, give enough to moisten all the ball moderately; but when this is done, let none stand in the saucer. If the water stands long in the saucer in dull weather, the flower-bud will be apt to become diseased by repletion. Use clean water entirely, until the flower-truss appears; after that, clear manure water may frequently be used with advantage.

Extra dryness then, before the flower-truss appears, will be apt to shrivel it up; but, before that period, the soil, as a whole, should be dryish, *not dry*, rather than soaked with wet. Too much water, and pouring it over the collar of the plant, will induce an opposite evil. When growing freely, the Strawberry likes abundance of water, and it will not set its fruit freely if very dry; but at no time, and especially in early forcing, will it long tolerate stagnant water. Water standing in their saucers has ruined thousands of pots of early Strawberries. To avoid this evil, I would advise the inexperienced to keep their pots on dry shelves, or placed on a little soil and moss, or set upon a layer of turf an inch deep, with its grassy side next the board, until, at least, they were coming into bloom. Though not so neat, yet for mere utility, I prefer the line of turf at all times. The top is made smooth and level, with a little fresh soil—the pots stand level upon it—there is no danger of extra moisture, as that passes away; there is little danger of extra dryness under ordinary care, as the turf will retain a considerable amount of moisture, and the roots will, ere long, begin to feed on it. The drip from it, however, would be unsuitable in many places where a shelf may be placed.

After the berries are swelling, and have been thinned, if fine specimens are desired, water may be more freely given, and in sunny bright days a little water in the saucer will do no harm; but, as the fruit ripens, extra moisture must be avoided, if flavour is more desired than succulence.

The general management having been so often given, I will content myself with detailing these minutiæ, which, though theymay be smiled at, and despised by many, may yet, by a few, be deemed of sufficient importance to form the groundwork of a successful practice, and then I shall not have penned this article in vain. R. Fish.

CALLS AT NURSERIES.

MR. R. S. YATES, SALE, NEAR MANCHESTER.

A nursery may, with truth, be denominated a school of gardening, where every gardener may learn, by observation, many of the methods by which the subjects of gardening are first raised, or trained to produce the objects aimed at in the shape of fruits, plants, flowers, or vegetables. Hence it is the duty of every writer, who has the opportunity of seeing these seminaries of horticulture and floriculture, to give to the gardening world his notes and observations on any matters he may see at such places. Much has been written on such matters by most of the writers in The Cottage Gardener; and, if needful, examples might be quoted, on the same subject, in many other similar works. I need only mention, however, that the late Mr. Loudon very frequently made a tour of the London nurseries, and recorded his remarks in "The Gardener's Magazine,"—the first gardening periodical published in this country. Now, although it is all very well to tell of the doings in the nurseries round London, I think it is no less useful, and, I may add, fair, that the nurseries in the country should have some notice taken of them and their doings. I shall have an opportunity, in the course of this year, of seeing many in Lancashire; and hope, if I am spared to do so, to give some brief notes on what I observe, that I think may be useful and interesting to our readers. It so happens that the first I have visited belongs to Mr. Yates, a gentleman well known as a zealous lover, and ardent cultivator, of both plants and fruits; and also as a dealer in fruit, and many other refreshments for the body, in St. Ann's Square, Manchester. There our friend Mr. Beaton would see flowers, too, set out singly and in bouquets, that would call forth from him that felicitous praise, which I must confess I am unable so happily to bestow. His nur-

sery and garden, where these delicacies are produced, are situated at a place called Sale, in Cheshire, five or six miles from Manchester. You have about a mile to walk, on a pleasant road, after leaving the station at Sale; you have then to leave the main road, and turn into a short winding lane, which terminates at the house.

The principal cause of my visit was a desire I had to see his collection of Acacias, which is, I believe, the most extensive and complete of any in the kingdom. As this is the season when the generality of the species bloom, I timed my visit accordingly. One tolerably large and lofty house has in it two large trees planted out, of the beautiful *Acacia affinis;* these fill the house entirely, and when in bloom are a pair of as beautiful objects as can be conceived: the foliage is almost as lovely as the flowers. The stem of the larger tree is nearly a foot in diameter at the base. In looking at it, Mr. Yates jocularly said, "That stem will soon yield boards broad enough to make my coffin, and I intend it for that purpose; or else my Deodar (alluding to a fine tree on the lawn) shall have the privilege of containing my mortal remains." I trust, however, Mr. Yates will live long enough to see these trees thick enough to hold two such as he is. Leaving these two fine trees, I then wended my way to the large house that is filled with plants of this tribe in pots. The number is really astonishing; the only fault I could find was, that they are so thick on the ground, and so tall, that their flowers cannot be well seen, without mounting a platform, erected in the centre. There are, however, a large number of medium-sized plants intended for sale, on shelves near the glass. The tall plants are just the thing to serve as creepers for a lofty conservatory, such as I saw at H. Micholls', Esq., and described in a recent number. The following are the species that I noted, though there are several that are unknown, and some new seedlings unnamed. With pinnated leaves, *Acacia affinis, A. dealbata, A. pubescens,* and *A. tomentosa,* a fine new species. With simple leaves, *A. armata,* many large plants; *A. argyrophylla, A. celastrifolia, A. culciforme, A. dolabriformis, A. floribunda, A. lineata, A. longiflora, A. longiflora major, A. longissima, A. penduliflora, A. pinifolia, A. Riceana, A. rotundifolia, A. vestita,* and *A. verticillata.*

From the Acacia house I walked into the Orchid houses, three in number. The collection here is extensive, and generally healthy; the greater part are grown in sphagnum moss, well drained: in it they seem to grow as well as in any compost ever devised. The terrestrial species are grown chiefly in leafmould and peat. I never saw finer bulbs of *Calanthe vestita,* just now gone out of bloom: during the resting season, they are placed under the stage, which allows more space for such as have leaves. *Dendrobium nobile* is now in flower, and other plants of the same species are kept cool, to prolong the season of bloom. There is no doubt this beautiful free-blooming, easily-increased species, might be so managed as to be in flower from January to June, by having relays of plants kept cool, or brought into heat, as required. The other remarkable Orchid in flower was *Cœlogyne cristata*; I noticed three large plants, with more than a dozen spikes on each plant. One specimen, not in bloom, measured nearly three feet across. Mr. Yates has the largest stock of this beautiful winter-flowering Orchid in the three kingdoms. Other species, in less numbers, in flower were *Dendrobium moniliforme, Odontoglossum pulchellum,* several plants; *Oncidium leucochilum, Lycaste Skinneri,* and some others of less note.

Of Orchids, out of flower, I saw a large specimen of the rare *Lælia purpurescens,* in excellent health; also a good *Cattleya Laurenciana* and *C. lobata.* The rarer Indian species, such as Aërides, Vandas, Saccolabiums, Dendrobiums, &c., are fine healthy plants, though now, of course, in a state of comparative rest.

I passed from the Orchid house to the forcing houses: here, I think, much may be learned. Mr. Yates forces flowers for sale, and adopts a wholesale method of doing so. Such plants as Lilacs, Deutzias, and Rhododendrons, he takes up with balls, and plants them thickly in a prepared border, inside the house. The walk is on one side, and between it and the wall there is a two-feet border, six inches deep. This border is half filled with rich soil, and upon it is placed large patches of Lily of the Valley: the patches are cut so as to reach across the border. Some patches were in full flower, others progressing, and some only brought in a day before I saw them. There was also a large batch of Roses, just coming into bloom; but they were in pots, having been brought slowly on in a greenhouse previously. The quantity of cut flowers obtained out of this house, by these methods, is really wonderful. I am sure that many of the growers of forced flowers, for the London markets, might profitably take a leaf out of Mr. Yates's book. A second forcing house, of larger dimension, and kept at a lower temperature, is devoted to bringing on early Azaleas, Tropæolum, Triomphe de Gand, Oranges, &c. The roof of this house is nearly covered with Allamandas, which, in consequence of the rest induced by the cool temperature in winter, flowers most profusely in summer. On the front platform, I noted many large plants of Cypripediums in full flower, showing that these terrestrial Orchids do not require a high temperature.

The next house I visited was the one devoted to the Camellias. I found them large healthy plants, flowering most profusely. As they are grown chiefly for their flowers to be cut for sale, the double white preponderates in number. I never saw so many blooms in one place before. Could they be sent to London, as they open daily (and in these railroad days I think they might), they would realise a considerable sum. I am certain there were at least a thousand blooms, fit for cutting, the day I was there. In one corner of this house, there was a good plant of the lovely and fragrant *Luculia gratissima,* with upwards of twenty heads of flowers on it. In a large span-roofed greenhouse, there was a large number of the Epacris tribe in bloom, and several of the early-blooming Heaths. On the platform, I saw a considerable number of the difficult-to-bloom *Rhododendron Javanicum:* almost every branch of these, however, had a well-developed bud at the top. I inquired how this was accomplished, and was told it was done by keeping them underpotted, but well supplied with water, only when growing: some of the largest had not been repotted for two years. This is a point of culture, for this plant, worth attending to. In the same house, there are a large number of the *Daphne indica rubra,* very finely blooming; the perfume from them filled the whole house. The flowers are cut freely, but care is taken in cutting to leave some foliage below the cut; for if no leaves are left, that branch does not push again, and then the shape of the plant is spoiled. The stems to the flowers are, of course, very short; but the bouquet makers know well how to form them, with wire, long enough for their purpose.

Mr. Yates, like myself, is an enthusiastic lover of Ferns, and has erected a house purposely for them: it is simple and cheap. It is a span roof, resting upon the walls; hence there is no expence for front glass: it is so low, that it was necessary to lower the floor; and to get into it, you have to go down two or three steps. The inside is fitted up in the rustic style. The pipes and walls are covered with rough scoriæ, and they are

covered again with Lycopods. In the centre of the house, there are set up rough thickish branches, or stems of trees; and on the side branches, cut level purposely, pots of Ferns are placed. From the roof are suspended baskets, filled first with a layer of moss, and then soil; and in them the drooping species are growing. There is a stage, on the south side, hidden with moss; and on it the choicer species are grown in pots. Even the cistern is made rustic, with long strips of bark entirely hiding its sides. To carry out the illusion, the door itself is concealed by fronds of dried Ferns. Taking it altogether, I consider it the most interesting and appropriate Fern house I have seen.

Adjoining this exotic Fern house, there is now forming a hardy fernery, which, when completed, will be as unique as the former. I saw large roots and chumps of trees, and heaps of stones, lying ready to form it with. The rough idea given to me, of its intended form and size, convinced me that in a year or two a description of it would be pleasing to growers of these interesting plants. T. Appleby.

SOWING SEEDS.

The condition in which the ground ought to be to receive garden seeds, is one of those subjects on which much difference of opinion exists; for we often see a successful result from two causes, widely differing from each other in their origin; and the sowing of seeds, by hand, is often done in a manner diametrically opposite to that in which Nature performs the same operation. The latter mode is simple enough. Seeds ripening in the summer, or autumn, of each year, sow themselves, and either fall on, or are scattered over, the ground at the time when its extreme dryness precludes the chance of its vegetating then. Even if it did, the hardiness at the top would prevent it obtaining nourishment there. But many seeds that ripen in summer do not grow until the following spring, even when they fall on ground apparently favourable to their growth. This wise provision of Nature prevents the plant vegetating at a time when it is sure to perish, by the cold weather likely to follow; and though the seed may fall on hard and stony ground, a winter's rain and frost so modifies it as to suit it to the wants of the young seedling. This is one of Nature's modes of sowing seeds: let us see how far we imitate it.

In the first place, it is proper to observe, that many of the most useful of garden plants are from climates much warmer than our own; some, in fact, will not ripen their seeds well in this country, though they attain a useful growth. Even hardy trees, bearing large seeds, reproduce themselves very sparingly. A Sweet Chestnut, for instance, produces, in favourable seasons, abundance of well-formed nuts; but a young self-sown seedling tree is rarely met with—I am not certain of ever having seen one—while the Oak, Ash, and Sycamore, and other trees (all, doubtless, indigenous trees) reproduce themselves to an extent only lessened by the ravages of birds, insects, and other natural enemies; and the places in which many of these seeds fall are anything but favourable in appearance to their growth. Nevertheless, Chestnuts will also succeed; but they are generally carefully kept through the winter on some dry loft, and sown in spring, when the genial warmth of the season starts them into growth, which they continue in until they have attained such a size as to withstand the rigour of the next winter.

Now, the above cases illustrate that of many of our garden products, whose origin, if not tropical, are certainly from a more temperate region than our own. *Scarlet Runner Beans* are large, and apparently robust seeds, yet they will perish if placed in cold, damp earth, in winter, or too early spring. Other seeds are similarly influenced, by the same causes, in proportion to their capabilities, or otherwise, of withstanding cold; the fact of the matter being that seeds, ripened in a climate so much warmer than our own in summer, require one correspondingly milder in winter also, to vegetate, when committed to the ground, at once. But many of our garden vegetables are either indigenous plants improved, or plants from those parts of the continent different but little from us, in the general conditions which regulate the growth and well-being of the plant.

Carrots, Celery, the whole of the Cabbage tribe, and various other plants, are only improvements on seeds of an unpromising description; and, consequently, their seeds are more hardy than some others. True it is that Carrot seed soon, too soon, perishes in the seed leaf, but this is often from the attacks of insects; and, after all, it is likely we sow Carrot seed earlier than it would be done if left in a state of nature; for the seed does not easily part from the stem, and if left alone would, in all probability, hang until the proper time for its dispersion by the winds, or other cause; whereas, in an artificial condition, it is cut, and harvested. On this point we, therefore, see the difference there often may be between the natural and horticultural mode of sowing seeds, and the want of success in the latter way may be often satisfactorily accounted for, as seeds refusing to vegetate and prosper when sown at a contrary time of year to that suited to them.

In reducing the above to something like a practical shape, it will be seen, that although most seeds sown by Nature fall on hard solid ground, yet this ground is very often accessible to the influences of air and moisture, by the upheaving it receives from winter frosts, and other causes. A firm flattened surface is also, on the whole, better, for many seeds, than a crumbly, loose one; the latter offering so much harbour for slugs, and other garden enemies. Thus it is better, in many cases, to sow on a hard, firm bottom, with loose material underneath, for seeds sown at the time most suitable to their growth. Hence the power of sending their roots downwards, or laterally, through a stratum so solid, that it would be impossible for us to force anything so slender as the rootlets of such plants are. But when seeds are sown at times not so well adapted to their well being, it is then that some artificial assistance must be rendered them, to combat the difficulties of their position; and as all plants of tropical, or highly temperate, origin are, more or less, cultivated on an artificial principle, seeds of such plants must be treated with such care as most assimilates with their natural habits. In this class, *Kidney Beans*, *Scarlet Runners*, and other plants, require to be sown when the ground is somewhat warmed by the spring or summer's sun, otherwise they refuse to vegetate, and perish; while *Broad Beans* and *Peas*, being more hardy, survive such seasons with but very little injury. They suffer more from the scorching effects of a dry summer than the plants alluded to. But, as the purpose of sowing seeds was the one to which these notes were particularly devoted, it will be better to go into detail of those more especially cultivated in the kitchen garden.

Taking a cursory view of kitchen-garden seeds, it will generally be admitted that those of the Cabbage tribe germinate the quickest, more especially if sown at a time most suited for their growth—say moist weather in May or June; while seeds of Parsley, Celery, and others, are much longer in vegetating. Peas and Beans vegetate quickly, if warmth and

moisture be supplied; and one of the most hardy seeds we have, those of the Onion, will allow of being sown very early, and do not seem to suffer from the cold. Very small seeds, as Rampion, require little or no covering; but, at the same time, some shading may be wanted. In fact, it is likely, if we examine the condition of all self-sown seeds, it will be found that most of them are, more or less, shaded by trees, or full-grown specimens of their own kinds. A piece of naked ground, on which the rays of a July or August sun are allowed to play, is, therefore, not, in all cases, the one best adapted for seeds vegetating in; for the extreme dryness of it gives the seed no chance to live, when once its shell is broken. And though some seeds will lie on the surface exposed to the fierce rays of a summer sun, and be ready to grow when rain sets in, the whole of the Cabbage and kindred tribes are injured, and, in most cases, destroyed by so doing.

In regard to the depth seeds ought to be buried, there is much difference of opinion; but the general rule of covering them with an amount of earth, five or six times their own thickness, is, on the whole, a correct one for everything sown in an artificial way, as almost all garden seeds are. Beans and Peas may be even deeper than that; but seeds coming up with weak cotyledons, as Carrots, can scarcely be covered too lightly. In fact, they would do without any covering, if we could depend on the seed remaining on the ground undisturbed. Radishes are a robust crop, and will bear as much covering as *Kidney Beans*, which are much larger seeds.

Sowing thickly, or thinly, on the ground is not so important an object, as the after treatment of the crop. Many seeds are so plentiful, and cheap, that a little extra seed is not a serious affair. But the welfare of most crops depends on their being immediately thinned as soon as they can be handled. Where this is impracticable, do not sow too thickly, for the greater part of crops are the better by not being too thick on the ground. But this subject has been often treated of before. J. Robson.

CRYSTAL PALACE.—February 22.

(*Continued from page* 335.)

When the beds and borders of the Crystal Palace were first planted, the gardening world supplied three kinds of prophetic oracles, who told us with the utmost confidence—first, that no plant could live so far from the glass for any length of time; secondly, that no place was more suited for the well-doing of certain tribes of plants—those with leathery or thick leaves; but for the small leaved, and delicate growth of the finer greenhouse plants, the Crystal Palace would be their death and their grave the first winter; and, thirdly, a shake of the prophet's head.

Experience has since proved, in the Crystal Palace, that no kind of prophecy, in our day, is more safe to indulge in than a grave shake of the head. If you are asked, when it is likely to be fine for this or that kind of groundwork, or whether that way of heating, or putting up houses, is likely to answer, shake your head, and you are sure to be right: at all events, none of the prophets, respecting the plants at the Crystal Palace, turned out right, except the shake-of-the-head prophets.

The real state of the case is this: the plants at the Crystal Palace could not look better in their native countries, during the rest season, than they now do in these beds and borders; and, what is more strange, there are no plants in any conservatory, in the three kingdoms, more free from dust than they; the Camellias and Rhododendrons are pictures of glossy healthiness, and the tall kinds are running up faster, and flowing more profusely, than the same kinds usually do in smaller houses; and as to those kinds of plants which were prophesied against, on the right hand and on the left, let the following list of names, taken almost at random, answer: *Chorozema Henchmanni; Dillwynia cinerascens, D. pungens,* and *D. splendens; Lasiopetalum parviflorum; Melaleuca densa,* and *thymifolia; Podolobium chorozemœfolia; Pultenæa stricta,* and *villosa; Scottia dentata;* and such like.

Now, since such plants as these grow most luxuriantly, and look as healthy in winter as they do in summer, the question of any plants "doing" in the Palace is settled for ever. The plant which seems, to my eye, to have done the best in the Crystal Palace is *Araucaria Bidwilliana*, an Australian Conifer; and the next that I think the best, and most at home, both in the cool and warm ends, is *Dicksonia antarctica*, the hardier Tree Fern from the same regions. Nothing, in cultivation, can look more luxuriantly healthy than these young Tree Ferns, at the present moment, in the cool end of the Palace, planted out in open borders, farthest from the light; also those of them in pots, at the hothouse end, where they line both sides of the magnificent avenue of Sphynxes; and where they make the best-looking arrangement for effect of any thing I have yet seen tried, in the way of mixing up plant decoration with objects of art. Many of the Londoners might copy from this avenue to great advantage—I mean nurserymen and those who employ them—for "furnishing" from Buckingham Palace, to the stands in Covent Garden Market. As a nation, we are deficient in the art of "furnishing" with plants, either by themselves, or mixed up with ornamental artistic works: witness the grand and complete failure of Exhibitions of plants *set for effect*, under a high competition for prizes, in this very Palace; and would the *effect* have been much better if the aspirants, for effective fame, had been allowed to mix statuary, or any of the ornamental objects in the Palace, among their plants? I cannot answer the question; but I can attest that the way of mixing the Tree Ferns, and certain kinds of Palms, with the Sphynxes, in their own avenue at the Crystal Palace, and more especially in the north end of the avenue, is the best way of giving effect to that style of furnishing; and is much beyond any thing of the kind I have yet seen in London, or in any part of England; and I would advise gardeners in the country, who have to do with furnishings for balls, routs, and evening parties, or with conservatories which open into crowded drawing-rooms, to visit the avenue of Sphynxes this spring, on purpose to learn more of this *effect*. The fact is, that every conservatory (of any note) which opens into a drawing-room, ought to have some objects of art mixed with, or as accompaniments to, the groups of plants; otherwise, what are they more than a trade "show house?"

But, there is one most essential department of gardening, which can never be carried on in large buildings (as far as experience has gone yet)—the nursing department; sowing seeds, rearing cuttings, and nursing the young plants until they are of a "certain age." This department, at the Crystal Palace, is out of sight, like the forcing department; but I got into it as freely as if I were one of the directors, and now I can tell about the grand secret of the *Tropæolum elegans* bed; I had lots of the very plants in my own hands; they are very easy to keep all the winter in a greenhouse; they come from cuttings in the spring and autumn, as freely as Verbenas, or more freely indeed; there is only one kind called *elegans*, and it seeds freely, and I think they told me it comes true from seed; at all events, some of them believe and hope it will. They make no particular preparation for the bed, but plant it as a Petunia bed, and begin to train the plants from the very day they are planted; of course, if too many leaves come, they thin them, as we often do with Geranium and some other beds; for what would be the use of having edgings of the common Nasturtium round scarlet beds, unless the leaves were constantly picked off, to let the whole of the flowers and flower-buds be seen. This *Tropæolum elegans*, from having been so much seen and admired, and written about from the Crystal Palace, ought to be one of the very best trade plants in the three kingdoms this spring, and then it should be left with the public to do as they list after the first year. It would seem, therefore, that a good new bedding plant could get the best "lift" in the world, by having a bed of it first exhibited in the garden of the Crystal Palace. Indeed, the two reasons which took me to see the Palace that day, was to inquire about *elegans*, and to see the forced flowers. It is only right, however, to report other things, and

especially things that are out of sight, but not secrets. They have a very large, and a most healthy, stock of fine leaved and variegated plants, and some very rare plants in the nursery department, which is private—recollect *private*, and no one (except a perfectly independent reporter) is ever allowed into the private sanctum—these, as they come of age, will "come out" in the Palace from time to time; so there is no danger of running short of popular plants, or of not making the best use of them for the good of the age.

The spirit seems to be that each department of the vast establishment, inside and out, strives to be at the head of its own craft, without elbowing the ones on each side of it, and all working for the common good. I entered by the long Colonnade, and found all the trained plants had escaped the winter, and most of them were winter pruned. The *Jasminum nudiflorum* is splendid this winter: it is the best back wall of a greenhouse plant we have. Ceonothuses, *Stauntonia latifolia*, Veronicas, Clematis, *Tea* Roses, and Passionflowers, though almost hardy, and some of them quite so, do better under a slight shelter like this. *Podocarpus pungens*, with a Yew-like leaf and growth, may be trained like a climber. *Tacsonia ignea* is there, and one kind of Nosegay Geranium, called there, *purple Nosegay*—it is the same as *pink Nosegay*, and as *Fothergillii* in "Sweet's Geraniaceæ." The trees in the line of Deodars, outside the Colonnade, look as if they had been growing fast all the winter. The four corner flower-beds in the two end panels have been somewhat reduced, and their shapes have been a little altered—all to the better and better still. There is an Irish Yew, five or six feet high, planted on the grass near to the centre of each of these corner beds, which makes a wonderful improvement. These beds are now full of good-sized Rhododendrons, and the only plants which I had seen anyways protected, are the tree *Pæonies*, over which Ferns and some dry sticks are placed.

The African beds, or bedders at the south end of the Palace, were under alterations, so as to get all the plants out of the pots, and into the free soil. The wild beasts, and the black people there, remind one of Dr. Livingston's discoveries in Central Africa; the most curious of which, to a gardener, is, that the Cape Gladioli, Hæmanthus, and Ixias, should reach down to within a few degrees of the Equator, and on heights not more than five thousand feet above the level of the sea (as stated in the last days of his journal)—back from Loanda to the Zambesi Valley. Many of the Camellias are in fine bloom, and some of the Rhododendrons will soon be open—they had to thin out some of the larger duplicate Rhododendrons, and these are put into tubs, and now stand in the warmest end to be slightly forced into bloom; most handsome specimens they are, and full of blossom-buds.

The tree Pomegranates are taken to a separate space, and are being pruned, by shortening the young wood; many of the large Orange trees have made a fine healthy growth, but some of them, which had been exposed out on the terrace the first season, have not yet recovered the severe check of that exposure, before they were established after their journey from Paris. I advised that two or three inches deep of the Cocoanut refuse, from Kingston, should be put over the roots of these Orange trees; and the new roots, which are certain to be made in this stuff, will bring the trees round sooner than any thing else with which we are acquainted. The next best thing to get unhealthy Orange and other trees to make fresh roots, and good healthy growth, is spent hops after brewing. I have seen Orange trees almost brought to life in the Oxford Botanic Garden, by the free use of spent hops over the roots in their boxes.

Acacias, and Eucalypti are fast getting up out of the way of the under plants. *Acacia melanoxylon*, presented by Mrs. C. Webb, is the most tree-like Acacia in the Palace, with a thick stem and cracked bark, and a splendid head, twenty feet high; but several *Acacia affinis* are nearly forty feet high, and covered with bloom. *Dealbata*, which is very like it, the same. *Pubescens* next, but will not be in bloom for a month from that day. *Undulæfolia* is a fast grower, with very small leaves, and slender young growth. *Longissima* ditto, with Willow-like leaves. *Sophoræ*, a broad-leaved kind, is particularly strong. *Argyrophylla* has the finest looking leaves of all the Acacias, they are silvery white, larger than those of the broad-leaf Myrtle, and as soft and downy as the richest satin; if not the best, it is certainly the most conspicuous of all our fine-leaved plants; but you see it nowhere but here—how is that? Perhaps it is very difficult to strike from cuttings, like *pubescens*, and a few more of them; but I have seen the "Pine Apple Place Nursery" propagators increase *pubescens* by the scores, and the hundred, if not the thousand, this time twenty years back, by cuttings of the roots; and I myself have grafted many difficult kinds of Acacia on pieces of their own roots, and found them to "take" as freely as any other plants. There is no valid reason, therefore, for *Acacia argyrophylla* being a scarce plant; it is certainly a most beautiful silvery plant, more so than the "Silver tree" of the Cape *Leucadendron argenteum*. *Nandina domestica*, the sacred Bamboo, the evergreen Chinese Elm, which they dwarf so much; the Chinese Camphor tree, *Berberis Nepalensis*, fourteen feet high; *Corynocarpus lævigatus*, from New Zealand; *Eriostemon myoporoides*, eight feet in diameter, and five feet high, just coming in bloom; *Seaforthia elegans*, the Australian Cabbage Palm, in the utmost vigour, all over the beds of the colder end; *Scottia dentata*, aforesaid, sixteen feet high; *Fuchsia coralina*, full thirty feet high, and as upright as a plumb line; *Dicksonia antarctica*, quite young plants, twelve feet in diameter; Pourrettias, with Bromelia-like leaves; *Eucalyptus globula*, fifty feet high; *Buddlea Lindleyana*, twenty feet high; *Ceitonoplesium cymosum*, a fast running plant, with Yew-like leaves, but longer, and cymes of small white flowers; *Mimosa purpurea*, looking like a sensitive plant; *Crotalaria purpurea*, twenty feet high, and five feet through in the narrowest part; Rhipidodendrons, with forty heads; the dwarf tree Aloe of the Cape, and the old representative of the modern Vellozias or tree Lilies of the Brazils; *Anopteris latifolia*, a fine broad-leafed dwarf evergreen; lots of the Elephant's-foot plant, now in full leaf, after flowering; *Euonymus fimbriatus*, from Japan, a fine evergreen, and a thousand more of such fine plants, are worth a day's study, by any one who is fond of plants.

The newest move, and one of their very best, is seen in a match couple, of five feet standards, of Mr. Fortune's *Indigofera decora*. Yes! *Indigofera decora*, a true *standard*, five feet clean, and clear in the stem, and a blooming head to each. How is it possible, then, to believe, that wonders will ever cease, and who would envy the taste of a man, or mortal, who would call such work degrading to a British-born subject. Fly-flappers forsooth!

In the Alhambra Court, the beds of Camellias and Fuchsias are hedged with broad-leaved Myrtles, which look very neat and appropriate. The beds and borders, in both ends of the Palace, are lined with the little *Polypodium denticulatum*, and strong yellow loam is found to be the best soil to keep it stiff and compact; they also keep it clipped, to have it perfectly even all over, and when they clip it they do not brush off the cut ends, but allow them to fall in among the rest, where they soon take root, and thus keep it as close as short grass on the lawn, which is a great improvement to its soft lively appearance.

In the hothouse end, and what surprised me most, was to see so many plants placed *on the water* of the basin, pots placed on pedestals in the water, but sufficiently high to keep the bottoms of the pots just on the surface of the water. *Dicksonia squarrosa* flourishes this way in winter, much better than on a dry sitting; also, *Dicksonia antarctica*; some Date Palms, *Asplenium nidus-avis*, *Marattia alata*, a fine Fern; *Cyathea elegans*, *Adianthum formosum*, most flourishing; *Gymnogramma ochracea* with the underside of the leaves as yellow as can be, with the Sugar Cane, and Lemon Grass, all with the bottoms of the pots touching the water.

Then, the groups of *Dicksonia antarctica* between, and in a line with the heads of the Spynxes, with taller plants of different kinds of Palms behind them, all grouped most artistically for effect; *Clivia nobilis*, flowering in the border; groups of Musas, in fruit; the Peruvian Bark tree, *Cinchona Calisaya*, with a growth similar to a Luculia; *Dimocarpus longan*; *Corypha sylvestris*, one of the finest Palms; most healthy Coffee trees in fruit; a screw Pine, branched at the top and coming into flower; *Lantana borbonica*, the largest Palm, brought from the collection of the Empress Josephine, at Fontainbleau, with others of the same family; together with an immense stock of young Palms, and other store and rare plants, all in first-rate condition, show what this end of the Palace is capable of, under good careful management.

Altogether, I was much gratified to see how well the gardening part of the Palace turns out, after all the prophecies we heard to the contrary, when the first start was made. Mr. Ayles, the curator of this department, must be very much pleased also, and to him I owe a long debt of gratitude for his kind permission to see everything I inquired after.—D. Beaton.

A CHAPTER ON GRAFTING.

To hasten on, and get everything done easily, is one of those maxims which everybody think themselves entitled to urge on their neighbours. It is sure and good advice; and, in gardening matters, is offered quite as much as in any other pursuit. Seeds, for example, are often advised to be sown, and other operations performed, quite as early as is consistent with their well-being. The fact of the matter is, that to be able to get work done early, sounds so like being done properly and well, that few think it can be done *too* soon. There is one important garden operation which, in many places, is certainly done too early in the season—that is, grafting of fruit trees, which is performed in many places much sooner in the spring than it ought to be; and when not so successful as wished for, the cause is laid to anything rather than being performed too early. Let us take an ordinary case.

Supposing, for instance, a farmer, or amateur, had some healthy Apple, or Pear trees in his orchard, of indifferent kinds, which he would like grafted afresh, his usual course is to head them down in winter, leaving a number of forked limbs as thick as his wrist or so, to work better kinds on. In the midland counties, and even near London, I have seen grafting of this kind done early in March, in an ordinary season. It is needless saying which way the scion may have been put on, but the ordinary crown, or cleft grafting, is the usual way; and being tied up and clayed over, is very often left to the tender mercies of cold withering easterly winds, which usually blow for a long time at this season, withering everything (not having an established hold of the ground) completely up. To prevent this, some careful cultivators encase the grafts in a rough covering of moss, which, being tied upon all the heads so grafted, give the tree a grotesque appearance, and having frequently to be watered, is attended with much trouble; but, without this precaution, it is likely very few of the scions would have grown. Now, if the party putting themselves to all this labour, had but known that their efforts would have been equally, and, most likely, more successful, had they delayed the grafting a whole month or more, they would have saved themselves all the trouble of mossing and watering. The operation of grafting would have been performed in fine weather, and if the operation was well done, they would have very few that would miss.

I have been induced to offer the above remarks on fruit-tree grafting, which, as a branch of the calling, has not received the attention it ought—since budding became the more fashionable pursuit—and, as that is done in various ways throughout the whole summer, its sister art has been much neglected, and the oldest instructions we have, on grafting, remain still in force. The various modes recommended by Abercromby, and others, cannot well be found fault with; but it might be a month or more later with advantage. In making this assertion, I claim no new idea, or the result of any single experiment; it is the almost universal custom of the neighbourhood I live in, where there are extensive orchards of all kinds of fruit trees. Many old trees worked on the crown grafting system, are not grafted until May; and some growers, who have had much experience in that way, do not begin until the last week in April; and I need only observe, that no crack nursery knife-men, or propagators, are more successful, in a general way, than the farm labourers are in Kent, who have the management of the fruit plantations. Tongue grafting, which is usually performed on smaller stocks, is usually done somewhat earlier; but the whole is put off later in the season than is usual in most other places.

In connection with the above, it is necessary to say, that the trees to be operated on are cut down, and the scions taken off some time before the process of grafting is carried out. The scions are usually kept buried three-fourths of their length in the ground, and a very good reason for the delay, is the withering influence of the east and north-east winds we often have at this season, which would shrivel up the scion before it received any of the ascending sap. Whereas, by delaying the operation until the sap is in motion, it receives it at once, and quickly becomes part and parcel of the tree it is inserted on. I strongly advise, then, not to be hasty in executing it, and the probability is, that grafters will find themselves more lucky than they expected. Even experienced gardeners, in grafting a wall Pear, very often do it earlier than they need do, only they have the means of partly guarding against the evils of so doing. But in giving the above advice on grafting, it is also necessary to caution the amateur against cutting down old, or unhealthy, trees to graft afresh, for he will find, probably, that after the grafts have grown some three or four years or more, the tree will either die off, or become sickly as before. This is more especially the case with standard Pears.—J. Robson.

DOINGS IN WOODSTOCK AND DOINGS IN CHINA.

"W. M. Knowsley requests information concerning the application of diluted ammoniacal gas liquor, or any other particulars which may be thought necessary; feeling sure it would confer a great favour on your many readers, as well as himself." To which I reply with the greatest pleasure, "Go and fetch me several pailsful of the ammoniacal liquor from the gas works, and then put at the rate of *one* pailful of the liquor to *six* of water into the copper, and make it boil as soon as possible. I will syringe every tree in the garden with the mixture, scalding hot! Something must be done, kill or cure; for soapsuds appear to have no more effect upon this desperate blight, comparatively, than plain water."

Such were the instructions I startled my odd man with in the summer of 1856; and the result was marvellous. My poor trees were fast bounding towards that fate from "whose bourne no traveller returns to tell a tale;" but the application saved them. I applied it in the evening with a syringe; and warm work it was. I believe my man and myself were never so hot in our lives before, and he is an old Indian soldier; for the action of the boiling gas water created a floating substance worse than pitch, which clogged the syringe, and made it no joke for the arms, after two hours of such an amusement. I borrowed the housemaid's pail, as being an utensil agreeably suited to the mixture; but I became rather anxious about my idea, as I observed the paint dissolved from its interior by the strength of the liquid, and it made the foliage on the trees look most preciously blue, and my man exceedingly dubious.

However, as one does not like to lose caste with one's own people, I made no sign, but steamed away, and only desisted when the last drop was served. Standard Apples, Roses, Gooseberries, Currants, and all the wall trees, were drenched with the "stinking stuff;" and I used it so hot, that I could only just bear my hand in it—say 160°.

The gas liquor could be proportioned into the water, when taken from the copper, though I have never mixed it that way.

I arose anxious and early next morning, and a heavy weight seemed to be taken from me, for the trees looked *green* and refreshed; they continued so all the season, and I have had no cause to use the mixture in so wholesale a manner since. I have, thanks to the application, had better crops of fruit than my neighbours; and, I really think, not a single caterpillar has ventured to make its home on the trees which were washed. Syringe on the second evening afterwards with plain warm water.

"Ah!" said my *chèf*, next day, "you have saved the trees; but you have killed the copper! The women will be in a fine taking when washing-day comes round again."

"Oh, really! Well, never mind the women; and as to the copper, fill it with water, and toss a couple of shovelsful of cinder ashes, along with a pound of soda or pearlash, into it; put in the syringe, and the iron lading bowl also, and boil rampantly for half an hour; that will put a lively face on any copper. Pour the lukewarm contents on to the Asparagus bed to-morrow morning, and you will find, after that, if you ask of the women, 'the copper looks brighter than ever.'"

I can thoroughly recommend this hot-diluted ammoniacal liquor as an excellent application for trees, either in or out of leaf, which are subject to blight and vermin; and had I a vinery attacked with the mildew I would batter it with the mixture, and it occurs to me it might possibly conquer it. Its application is hard work, and it plays vengeance with the packing of the syringe. Possibly this might require repacking after each operation. And as to whether the practice could be adopted on a large scale, that depends entirely on the operator's will and perseverance.

Analogous to the application of ammonia to the leaves of trees, there is a practice in China. It is pointed out as follows by the *Times'* "special correspondent," writing from Hong Kong, on the subject of Chinese agriculture:—"Grass grows rank only upon graves. One or two buffaloes, two or three goats, a breeding sow, ugly long-legged fowls (called Cochin-Chinas in England), and a flock of ducks and geese, are the live stock of a Chinese farm, which maintains a hundred labourers. Stable-yard manure is scant. Human ordure is collected with care in numerous open earthenware pans, where passers-by can contribute their offerings to these shrines of 'bestiality,' both offending the senses and poisoning the air. In the suburbs, each house has its cesspool. In the country, each cottage its inviting latrine," which, like a famous count's "Narbonnese honey," bring in these Chinese "a great deal of money;" "for at Ningpo (?) two immense pans lie opposite to the entrance door of the first native merchant of that city, awaiting the payment of 2000 dollars, which is the price of their removal. To an Englishman, who visits their country, these manure traps constitute his first and last impressions of never-ceasing horror. Boats convey this produce through the inner waters, and anchor close to you at night; only to remove for a consideration. One Englishman, in disgust, paid 30 dollars to a fellow to move on, at the same time fisticuffing the extortioner into" *his* ambrosial "liquid cargo." This manurial treasure is, according to a Chinaman's way of thinking, too precious to be worked into the ground: "*it is sprinkled over the leaves of the plant:* burnt haulm and straw of the cotton plant only are delved into the soil. The Chinese transplant every root of Rice by hand, and each root gets its little blessing of the above liquid." These things are managed differently in China to what they are here; but "give an English farmer," or gardener, "some 1000 acres of vegetable loam of an unexplored depth, waterways, reticulation of ditto for flooding purposes, labour at 4*d.* per day, abundance of sunshine, periodical rains, large markets, cheap communication by tidal creeks, and what corn and pot-herbs he would produce—to say nothing of tea, sugar, cotton, silkworms, silk, and Mulberry leaves—our friend Giles would have to scratch his head a little before he could start on a race to overtake these Chinamen, who are 4000 years of practice a-head of him."

Now, I live in one of the smallest of corporate towns imaginable, and have not been fined by the sanitary commissioners on account of bad smells; so for that very reason, and many others which I could mention, I do not choose to be passively written down as being 4000 posterior to any Chinaman whatever; and I will give my reason why, in accordance with the spirit of this present writing; first, merely excusing myself by quoting a paragraph from a leading article in the *Times* of the 8th ult.:—"We trust that our readers will not charge us with indelicacy in speaking publicly of such matters as these; they should consider that men's lives are at stake." Let me add, women and children's also.

My system of application relating to house sewage is not a feature of yesterday, it has been in operation here nearly eleven years. We have two sewage tanks, the larger of which is formed under a gravel walk in the garden contiguous to the dwelling-house, and a drain conveys the contents of the watercloset into it. Once a year I decide upon a day to empty this tank. Then, in order to do so, the gravel is shovelled off, and the trap, or block of wood two feet square, raised by the piece of chain attached to it. Since the previous emptying I have accumulated, probably, from three to four bushels of burnt wood-ashes, the produce of the oven. If not so much, I send for two pecks of gypsum from the druggists, as a compensation; these are tossed in at the tank's mouth into the sewage, and well stirred about, in order to fix the ammonia, to serve as a quietus to the smell. Then, with an old iron saucepan, attached by its handle to a pole ten feet long, the sewage is laded into water-cans, borne away with yokes, and distributed over the portion of ground that is about to be dug or trenched, and cropped with the Cabbage tribe; or applied to the beds of Asparagus, Rhubarb, Sea-kale; to the roots of the Black Currant, Raspberries, Apple trees, or other permanent plants which may require invigorating. The opening of the tank is large enough to allow of a man's descent, by means of a short ladder, to the bottom, to gather up the sediment with an iron bowl into buckets. As soon as the tank is emptied, the square oak trap is dropped into its frame, the gravel returned and rolled, the ground dug and planted immediately, over which the mixture was poured; thin layers of soil are spread upon the Asparagus bed, &c., and not even the most sensitive nose becomes aware of the fact, unless that nose chooses to insinuate itself wilfully into the immediate presence of the operation.

The other and smaller tank is situated in a back yard, having a square wooden trap-door, minus the gravel over it; it has a drain leading to it from the scullery sink, conveying the hand-washings, and other manurial properties constantly escaping from that quarter. This goes *now* to the "muck pie" in the mixen, and in the summer time it is taken to the garden to supply the coarse topers there.

I never exceed two cart-loads of stable manure *per annum*, and this I procure to mix with the autumnal "pie;" for the chief part of my cultivation my staple is liquid manure, collected and used in the manner already stated, and it is astonishing the quantity and quality of vegetables and fruit this rather small garden is made to produce as a result.

I hear the Duke of Marlborough is about to cause the lake in Blenheim Park to be cleared out. How the shades of "Capability Brown" will rejoice at it! and what a horrible miasma it will create in the doing hereabouts! But how good taste will become reconciled to a gas works that is being erected, and surrounded by clumsy posts and rails, ill concealed by a few trees, and in close proximity to the end of the left wing of the palace—foully striking the eye as one enters the park from the triumphal arch from Woodstock—it is *difficile dicere.* If I were the proprietor of that splendid domain, the eyesore should be made to depart a great deal quicker than it has been placed there. The ghost of Vanburgh may be expected to be seen nightly, heavily weeping over this modern blur, in close alliance with his chief work, Blenheim.
—Upwards and Onwards.

THE ARTICHOKE GOURD.

This is the proper name of the best kind of Vegetable Marrow, in the South of France. I said, at page 199, that "the Horticultural Society had it last summer; but I have not heard that they succeeded in tracing out its book name; therefore, the kind which is in the hands of the Society may not be exactly the one I spoke of, as being the best of all Vegetable Marrows." Now, I am in a position to clear up this point, and to point out to all, whom it may concern, how it may very easily be proved by thousands.

The Custard Vegetable Marrow, of the Horticultural Society, is not the *Artichaut d'Espagne*, nor the kind which I meant. We had them both at the last meeting of the Horticultural Society, on the 2nd inst., and I left them out of my report purposely, to put the saddle on the right horse. The Artichoke Gourd is four times handsomer, and not nearly so large as the Custard Vegetable Marrow. "It is very pretty-looking at table," as Dr. Beck says; that is, it makes a good-looking dish, *whole*, or in *quarters*. I can cook as well as most of them, and I can tell the best-looking dishes, and the best way of laying the cloth and "placing" a dinner-table, as well as any man in Mr. Gunter's establishment, and I have no hesitation in seconding the one Doctor against the other. Dr. Lindley knows the "Marrows," botanically better than Dr. Beck; but Dr. Beck is a better authority for them medicinally, and when they are well cooked, and of the kinds best to cook; but as I have not tasted the Custard Vegetable Marrow, I cannot say, from my own experience, which of the two is really the better. I go by what I consider the best authority; but supposing that they are both best—and I am sure the Custard Marrow must really be a good thing—there

is no comparison between the good looks of the two at table; therefore, to decide the point of merit, all that is necessary is to try the two kinds from seeds this season.

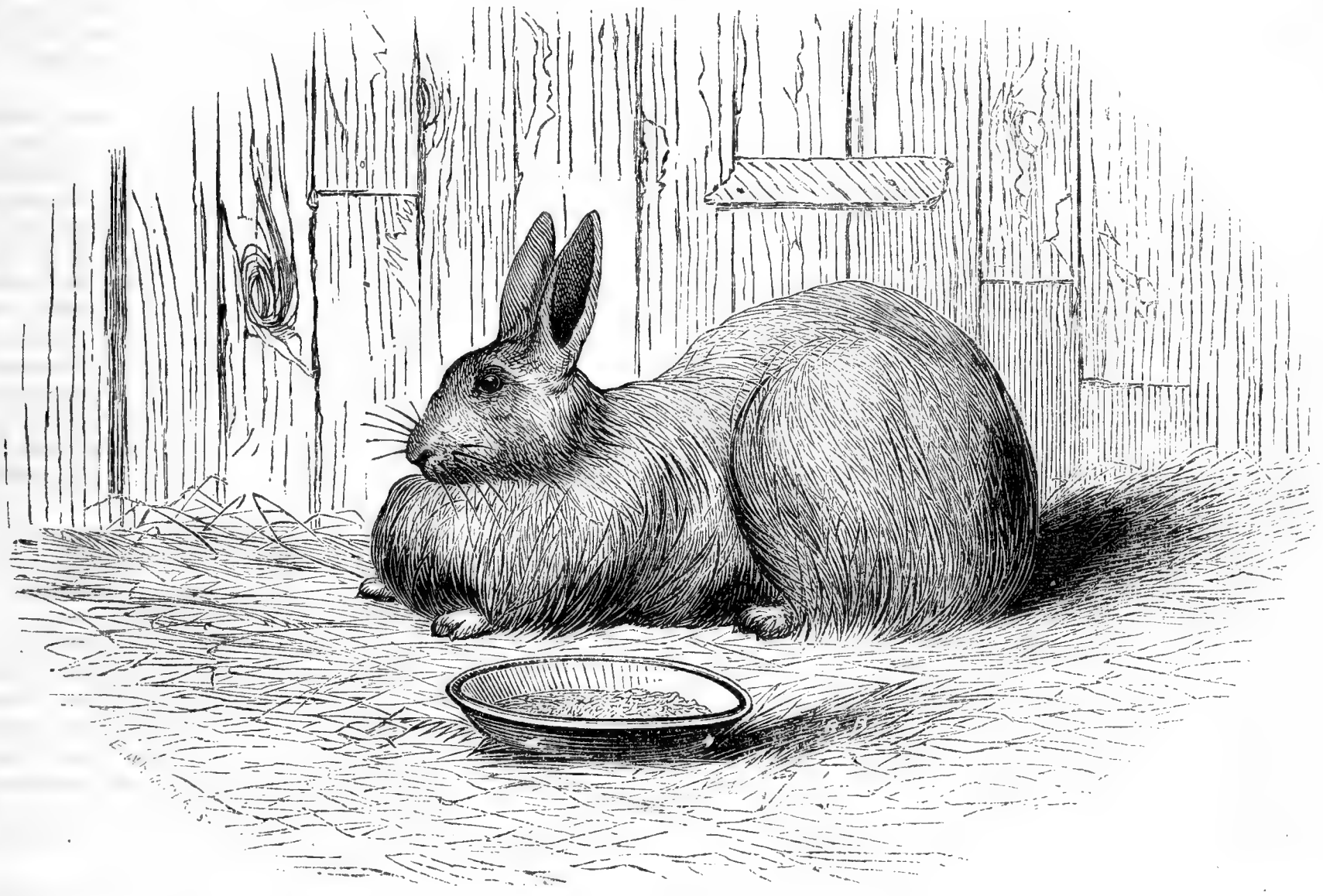
The two are in the market under one name. We had a specimen of each of them at the Meeting in Regent Street, and the one which I said long ago was the best, and is the best-looking of the two, was exhibited by the Messrs. Bass and Brown, of Sudbury, Suffolk. Others may also have this kind on sale, and without knowing the difference, the public will not be able to decide which is the best Vegetable Marrow, after all our pains. To assist in the comparison, I shall ask for a few seeds of the Custard Marrow from the Horticultural Society, and if the Messrs. Bass and Brown will be good enough to send me a packet of "the Artichoke Marrow," I shall try them both against an American kind, which Dr. Beck assures me is better than either.—D. Beaton.

STRIKING CUTTINGS IN SAND AND WATER.

I know our old friend, Mr. Beaton, likes to "give honour to whom it is due," and will, therefore, thank me for sending the enclosed extract from the third volume of the "Midland Florist," published in 1849. It is stated to be Mr. Wyness's system of cultivating Verbenas, *copied* from the "Florist." From this it will be seen that Mr. Kidd's plan is not "perfectly original," although perfectly successful to my knowledge, as I have adopted it for some years for various kinds of flowers.—Frank.

"Fill shallow pans (such as are used for placing under flower-pots) to within a quarter of an inch of the top with silver sand, and pour in water sufficient just to cover the sand. Then make the cuttings in the usual way, and push them into the wet sand; put the labels to them, and place them in a hotbed frame, where the heat ranges from 65° to 70°, always keeping the sand wet. The advantages to be realised by propagating the Verbena in this way are, that the cuttings never require to be shaded in the brighest sunshine, consequently the young plants are not drawn up long and lanky; the cuttings never stop growing from the time they are put in until they are ready to pot off, which is in about six or seven days; when they may be drawn out of the wet sand with a bunch of roots, without injuring a single fibre."

THE ANGOLA RABBIT.



This, known by some as the *Angora*, or *French* Rabbit, has its foreign origin suggested by the names. It is a distinct and remarkable variety, its chief peculiarity consisting in the long shaggy hair, with which it is covered.

It is found of all colours, but the white, with pink eyes, is generally considered the most attractive and valuable. The true bred Angola Rabbit has short ears, carried erect; but specimens are to be met with, not unfrequently, of lop-eared shaggy Rabbits, which are the result of a cross between the true bred Angola and the lop-eared Rabbit. These Rabbits will sometimes attain a large size, but they are not so often bred for table purposes as for curiosity. We often meet with them at public Exhibitions, and there they form a striking contrast to the little Himalayan, or the more graceful and fine-coated lop-eared specimens. Classed under the head of "any other variety," the white Angola is often a dangerous rival in the Show pens; and we have sometimes wondered to see how little this curious variety has been encouraged and cultivated.

THE PRUSSIAN RABBIT.

At the Nottingham Show, January, 1858, a pair of Rabbits were exhibited under this name. They were remarkably small in size, and beautiful in their proportions; they were both white, with pink eyes; their ears were very short, and carried erect. The heads of both buck and doe were rounder than in any other variety.

They were timid little creatures; so much so, indeed, that the noise and inspection of the visitors at the Show were sufficient to destroy one of this very interesting pair of Rabbits. They are the only pair I have seen, or heard of; and I believe that they were imported, but whether directly from Prussia, or not, I was unable to ascertain.—P. Boulton.

THE CINERARIA.

Where competition is strong, and parties are desirous of obtaining prizes, the following varieties ought to be procured forthwith. When the plants arrive, they should be placed in a close pit for a fortnight, to recover the journey. Then repot them in light rich soil, in pots three inches wider, and replace them in the pit, or frame, covering up at night, should the weather prove frosty; and giving air at the back every fine day, by tilting up the lights. Then, in a month's time, give a second shift into their blooming pots, and they will bloom finely in June.

New Varieties.

Baroness Rothschild, soft rosy-purple, with large white ring, and medium-sized disk; fine form and habit, and a very fine bloomer.

Mrs. Colman, a very fine variety, violet purple, with large white ring, and dark violet disk; good form and habit, fine substance.

Prince of Wales, white ground with deep blue edge, and dark blue disk; first-rate form and substance, and an early bloomer.

Regalia, scarlet crimson, the best of its class yet raised; habit good.

Lady Gertrude Vaughan, very large, flower of a bright crimson purple, with large white ring, and dark disk; fine form, and good dwarf habit.

Lord Palmerston, deep purple self, very striking and beautiful; well adapted for exhibition.

The above set of six may be had for 30*s.* this spring. In the autumn of last year they were 7*s.* 6*d.* each.

Second Select List of Six Older Varieties.

Beauty of Leamington, white, with deep purple edges, light disk; very showy.

Brilliant, white, with light azure edge, dark disk, and fine form; a distinct and beautiful variety.

Duke of Cambridge, bright blue, dark disk; good form and habit.

Emperor of the French, white, with broad rosy-crimson margin, and dark disk.

Lady Jane Peel, white, bright rose edge, light disk; form and habit good.

Standard of Perfection, white ground, bluish-purple edge, blue disk; and a dwarfy habit.

Three shillings and sixpence each, or the set for 18*s.*

Select Older Varieties.

Crimson Perfection, light bluish-crimson self.
Fascination, light blue, with white circle.
Miss Labouchere, white, with rosy-lilac edge.
Magnum Bonum, bright rosy-purple, white ring, dark disk.
Optima, white, with a deep broad blue edge, and disk fine.
Optimum, white, with broad crimson edge distinct.
Oliver Cromwell, pale rosy-purple self; very good.
Prince Arthur, scarlet-crimson self; fine form.
Picturata, rosy-violet, light centre and disk.
Star, white, with deep purple edge, dark disk; good form and habit.
Sir Charles Napier, intense blue self, petals broad and deep; fine form.
Viola, white, with deep blue edge; very showy.

Two shillings each, or the twelve for 21*s.*—T. Appleby.

WINTER WINDOW GARDENING.

CONSTRUCTION OF A FERN CASE.

"Where'er we search, the scene presents
Wonders to charm th' admiring sense,
And elevate the mind;
Nor ever spreads a single spray,
That quivers in departing day,
Or turns to meet the morning ray,
But speaks a power Divine."

During a tour in Wales, this year, I fell in with some good specimens of case Ferns. Among them, *Asplenium trichomanes*, *Asplenium marinum*, *Ceterach officinarum*, *Adiantum nigrum*, *Asplenium ruta muraria*, *Polypodium dryopteris*, *Allosorus crispus*, *Diminutive Harts Tongues*, and plenty of commoner species. We brought home more than 100 young plants, and at this time many of them are flourishing famously in semi-Wardian cases.

"Ferns that grow the stream beside,
Where the leveret loves to hide."

I see your correspondents often inquire respecting the "construction" of such cases. Now, as it is the time of year when these little parlour gardens are most enjoyable, I will give the readers of The Cottage Gardener a *constructive* description of a window fernery, premising that mine was made nine months back, at a cost of about six shillings.

We require, then, a planed, well-seasoned, deal board, twenty-one inches by twelve inches, and one inch and a half thick. Also, other two planed deal boards, twelve inches by ten inches, of the same thickness. These latter are firmly morticed perpendicularly into the ends of the former, one inch from the edge. Grooves a quarter of an inch by three-eights of an inch are, in each case, cut in the inner side of the uprights, and carried in a right line along the base pieces half an inch from their edges.

This framework may be covered all over with oil paint, three coats in thickness; or, if preferred, it can be (as in my case) coloured with oak stain, and thoroughly varnished thrice with shell-lac dissolved in spirits of wine. When dry, the grooves are filled with white or red lead putty, and glazed with one-eighth of an inch sheet glass. The putty having set, the joints can be varnished, and a frame of deal moulding screwed on the top. The screws passing downwards into the uprights. Ornamental finials of turned deal are fixed by wire pegs to the upper rail at its four corners. A sheet of glass lies loosely on the top of the moulded rail. Thus, with the addition of a few perforations in the vertical pieces above soil level, *the ventilation necessary can be arranged to a nicety.*

The fernery is now complete, and when filled and fitted with back scene, forms an interesting ornament. A few pieces of tile should be spread at the bottom, and on them the undulating sanded charcoaled bog earth.

Ferns may then be introduced (the smallest varieties being the most suitable), with pieces of pumice stone, Roman cement, rockwork, &c., to taste.

Should the light be too intense, a screen may be placed at the back. A piece of appropriate scenery in water colours (on thin, even-textured paper) is attached to a frame of split lath. The picture is then varnished on both sides with copal varnish, and put aside to dry.

I find the most suitable watering-pot for Wardian cases, is an engineer's oil can. (They can be procured at any ironmonger's for 6*d.* each.) When filled, the pressure of the forefinger at the bottom causes an ejection of the water, which immediately stops running on withdrawing the finger. One at the price mentioned holds about a quarter of a pint. A few good specimens of Mosses add greatly to the appearance of a fernery of this description, particularly if some of the scarlet cups be introduced. Ferns and Mosses seem naturally inseparable companions, and should not be parted; a fact put forth in the following lines, which will, I dare say, be new to the generality of your readers. They contain a valuable moral, as all good poetry should do.

FERNS AND MOSSES:

OR, THE LINKS BY WHICH SOCIETY IS HELD TOGETHER.

"There was Fern on the mountain, and Moss on the moor—
The Ferns were the rich, and the Mosses the poor;
And the glad breeze blew gaily—from heaven it came—
And the fragrance it shed over each was the same;
And the warm sun shone brightly, and gilded the Fern,
And smiled on the lowly born Moss in its turn;
And the cool dews of night on the mountain Fern fell,
And they glisten'd upon the green Mosses as well.
And the Fern loved the mountain, the Moss loved the moor,
For the Ferns were the rich, and the Mosses the poor.
But the keen blast blew bleakly, the sun waxed high—
Oh! the Ferns they were broken, and wither'd, and dry;
And the Moss on the moorland grew faded and pale;
And the Fern and the Moss shrank alike from the gale.
So the Fern on the mountain, the Moss on the moor,
Were wither'd and black where they flourish'd before.

"Then the Fern and the Moss they grew wiser in grief,
And each turn'd to the other for rest and relief;
And they plann'd that wherever the Fern roots should grow,
There surely the Moss must like sparkling below.
And the keen blast blew bleakly, the sun waxed fierce—
But no winds and no sun to their cool roots could pierce.
For the Fern threw her shadow the green Moss upon,
Where the dew ever sparkled undried by the sun;

When the graceful Fern trembled before the keen blast,
The Moss guarded her roots till the storm wind had pass'd.
So no longer the wind parch'd the roots of the one,
And the other was safe from the rays of the sun.

"And thus, and for ever, where'er the Ferns grow,
There surely the Mosses lie sparkling below;
And thus they both flourish where nought grew before,
And both deck the woodland, the mountain, and moor."

—E. A. Copland, *Bellefield, Chelmsford.*

THE HOUSEHOLD.

Eggs for Burns.—The white of an egg has proved of late the most efficacious remedy for burns. Seven or eight successive applications of this substance soothes the pain, and effectually excludes the burned parts from the air. This simple remedy seems to us far preferable to collodion, or even cotton.

To Make Yellow Pickles.—To a three gallon jar, put in two ozs. turmeric; one lump of alum; one oz. of mace; one oz. of long pepper; one oz. cloves; two ozs. white ginger; half a teacup full of spice; do. black pepper; do. white mustard; a plate of horse-radish that has been scraped and dried; cut two or three firm small heads of cabbage, put them in cold water and let them come to a boil, take out, spread them on a folded cloth in the sun to dry; sprinkle them thick with salt; slice cucumbers that have been in brine, lengthways, and sprinkle with salt, and all the articles you wish in the pickle, such as radish pods, corn, &c. When all are dry or bleached, pour boiling water on them, wash off, salt, and put in the cold spiced vinegar. They will keep for years.

Golden Cake.—This and the following cake are named from gold and silver, on account of their colour, as well as their excellence. They should be made together, so as to use both portions of the eggs. To make "Golden Cake," take one pound of flour, dried and sifted, one pound of sugar, three quarters of a pound of butter, the yolks of fourteen eggs, the yellow of two lemons grated, and the juice also. Beat the sugar and butter to a cream, and add the yolks, well beaten and strained. Then add the lemon peel and flour, and a tea-spoonful of sal volatile, dissolved in a little hot water. Beat it well, and just before putting it into the oven, add the lemon juice, beating it in very thoroughly. Bake in square flat pans, ice it thickly, and cut it in square pieces. It looks finely on a dish with the silver cake.

Silver Cake.—One pound of sugar, three quarters of a pound of dried and sifted flour, six ounces of butter, mace, and citron, the whites of fourteen eggs. Beat the sugar and butter to a cream, add the whites, cut to a stiff froth, and then add the flour.

TO CORRESPONDENTS.

To many Correspondents.—We have to request your patience for a few weeks, until the pressure of advertisements, always great at this season, has somewhat subsided. "*T. W., Woodlands,*" is among the number we thus address.

Leaves smoked as Tobacco at Lucknow (*A Young Gardener*).—The leaves smoked by the soldiers as tobacco, during the late terrible siege, were from a tree called by the natives *Neem*, and by botanists *Melia azadirachta*, or Bead Tree. A picture of *Melia azedarach* is in the "Botanical Magazine," t. 1066; and one of *Melia sempervirens* in the "Botanical Register," t. 643. These very closely resemble the Neem. In Mr. Hogg's "History of the Vegetable Kingdom," it is mentioned as *Azadirachta indica*. He says, "It is the *Neem Tree* and the *Margosa Tree* of India, and is employed as a febrifuge. It yields, when tapped, a kind of 'toddy,' which is regarded by the Hindoos as stomachic. The oil, which is obtained from the fruit, is said to be antispasmodic; and the fruit itself is oily, acrid, and bitter, as well as the bark. The wood is hard, heavy, and beautifully mottled, but when old is difficult to work." In reference to your second question, the bead-like, ovate berry, is borne by a species of grass, *Coix lachryma*, called also Job's Tears. It is a native of the East Indies, and was cultivated by Gerarde, in this country, as long since as 1596. Buy our No. 466; you will there find full particulars relative to shrubs and flowers for *Town gardens.*

Various (*An Inquirer*).—1. We never give directions for beds, or for laying out gardens. 2. Do not put potted bulbs into a frame; but potting hardy bulbs for flower-beds is the second best plan. 3. We are not certain that *Clematis lanuginosa pallida* would do well out of doors. Most of our nurserymen have it under glass, but we think it ought to do out against a south wall, in a good dry border; any good nursery can supply it, but you must find out the price yourself. 4. *Silene Schafta* blooms the year it is sown, but late in the autumn, if well managed, though too late for your purpose; therefore, *your* best plan will be to sow it about the end of April, and nurse it for next year. 5. Nothing is more easy than to raise *Ipomœas*, *Thunbergias*, and all tender annuals, in a hotbed kept at from 60° to 80° of heat; but do not try many of them until you are more up to culture. The middle of April is the best time for you, and all beginners, to sow tender annuals, as then there is not one half the bother with them; the great thing is to sow them thinly, and to give them an early pricking off into small pots; three plants of all climbers in one pot, and if two of them die, still there is enough left.

Photography (*L.M.N.*).—Your paper is rather too coarse, but that has nothing to do with the blotchiness of which you complain. This is evidently caused by an unequal absorption of nitrate of silver. You must pour a *larger quantity* on your preparing glass; and let the salted paper remain on the N. S. solution for *a longer period.* You will then obtain a thoroughly even surface; which, when exposed, will colour far more deeply than the darkest parts of the specimen forwarded. Purchase an ounce of ammonio citrate of iron, bichromate of potash, and ferro prussiate of potash. The two latter must be pounded. Take three 2 oz. phials; and, having labelled, nearly fill them with distilled water. Then drop each powder into its proper bottle *till the water will dissolve no more.* Be careful not to mix the chemicals. The A. C. solution should be of a deep Port-wine colour, the B. P. brilliant orange, and the F. P. a greenish yellow.—E. A. Copland.

Name of Plant (*H.B.*).—Your plant is the *Cerastium, incanum*, or Hoary-leaved Mouse-ear, a plant only fit for the Botanical Collection. *Cerastium tomentosum* is a very much whiter looking plant than this, and is considered ornamental on this account. Love-lies-bleeding and Prince's Feather, for the ribbon borders, should be from sixteen to eighteen inches apart each way, from plant to plant, in a pretty good soil that has been well prepared for them.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

April 7th and 8th. Newcastle and Northumberland. *Sec.*, Mr. W. Trotter, South Acomb, near Newcastle.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

June 28th, 29th, and 30th, and July 1. Sheffield. *Sec.*, Wm. Henry Dawson, Sheffield.

August 30th and 31st, and September 1st. North Hants. *Sec.*, Mr. T. Moore, Fareham, Hants.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

QUICK RETURNS, AND MANY OF THEM.

There were two men living in the same street, almost next door to each other. Both followed the same trade—they were picture-dealers. One was an undoubted judge, and a man of singular talent; the other knew little about the article in which he dealt. If an amateur went to the first, and asked for ordinary pictures at moderate prices, the dealer, on some occasions, pointed contemptuously to a lot. When he was asked the price, he scarcely deigned to answer by naming one; or, perhaps, he said, they are worth very little. Give what you like. Sometimes he even patronised his customer, and advised him not to purchase. He was another man to the connoisseur, who came to ask if he could show him a *chef d'œuvre.* The glasses were produced; the merits of the three or four pictures were scanned, and discussed; the value was fixed; they were placed in different lights, and every idea but that of his good fortune in possessing such treasures was forgotten. After a long and critical meeting, the connoisseur was escorted to the door, and asked to repeat his visits. While he had been there, several customers had called, and waited; but meeting with no attention, they had passed to the other shop.

The other man bought, imported, or, as the phrase is, "picked up" as many good pictures as his neighbour; but not caring to pass for a judge, and intent only on making his trade profitable, he sold whenever he had the opportunity. He had no inner room sacred to the *élite* among connoisseurs; he had but one line of conduct to all customers—but one desire, and that was to turn his pictures into money. His neighbour would often buy of him, and afterwards tell him, with almost pity in his voice, that he had sold a masterpiece for a trifle, and that it would pay him hundreds of pounds. He smilingly hoped it would. It went to the inner room, was admired, a great price was asked for it, *but it remained there.* No one doubted the ability, judgment, or probity of the clever judge; but no moderate price would tempt him to sell his pictures. The truth was, he was too much of a connoisseur and judge, and he liked it to be known that he had the best pictures; he liked it to be talked of. A remunerating price would not tempt him to sell. He wanted to

realise the sum his imagination put on them. "But while the grass grows, the steed starves." He lost a fortune, while the other made one.

Such histories have their application in other pursuits. We know many such among poultry amateurs. There is, however, this difference, that with them poultry is a pastime, and involves no great loss under any circumstances.

We know two amateurs, and exhibitors, following the same pursuit, and moving in exactly the same station in life, turning their attention to the same classes, and enjoying an equal proportion, and that a large one, of success. One sold last year nearly £300 worth of poultry, bearing a good profit; the other scarcely cleared his expenses. Both yards are visited. Both owners have numerous letters, and applications to purchase. One states at the outset everything is for sale; the other informs his visitor no price will tempt him to dispose of his best birds. One sells his prize pens at a large price, and then successfully sets about to form others; the other keeps them till age and wear and tear have made them worthless. One is a good salesman, and leads his visitor up a sliding-scale of merit and value, each pen being *only* a trifle more than its predecessor; the other would rather have his birds praised and admired, than purchased. We do not mean to say gentlemen are to turn higglers; but it is a pleasant pastime to deal in these things, and not more derogatory than to sell cattle, sheep, or pigs. This, however, only applies to those who complain they cannot make their poultry pay.

It is difficult to render it profitable without exhibiting; but if that is judiciously done, any one may indulge his hobby, not only gratis, but enjoy many pleasures at its expense.

GAME FOWLS AT THE LIVERPOOL POULTRY SHOW.

When Mr. Worrall gives "Golden Mooney" the explanation he asks, as to why the Secretary of the Liverpool Poultry Show received the entries of his coadjutor's Game Cocks, under an assumed name, he will, perhaps, have the goodness to correct a report, which is prevalent in poultry circles, that a man of the name of William Gilliver, a paid servant of Mr. G. W. Moss, was allowed, by the Committee, to take charge of the Game Cocks in the Show; which really means, that *he* had the advantage, allowed to the servant of no other exhibitor, of being with his master's Game Cocks the whole time, when nobody else was admitted into the Show.

The question seems to me to be:—

1st. Was William Gilliver in charge of Mr. Moss's birds?

2ndly. Was he excluded from the Show till after the decision of the Judges was made known? Or, was he, unlike other servants, allowed to have access to his master's birds?

If this cannot be denied, Mr. Worrall may, perhaps, be able to explain the cause of such seeming favouritism. I have long felt that, if gentlemen wish to act on Committees of Poultry Shows, they ought not to exhibit at the same time; and, if such reports as these are true, they would seem to confirm my opinion.—Fair Play.

MR. MOSS'S GAME COCK AT LIVERPOOL POULTRY SHOW.

A letter appeared in your paper of last week, signed "Golden Mooney," which endeavours to cast discredit on me, for having exhibited my fowls at the Liverpool Show, in the name of my groom, Joseph Armstrong.

The circumstances, under which this occurred, are well known to the majority of poultry amateurs, and, without I am much mistaken, are not unknown to "Golden Mooney."

The facts are these. A few days before the Liverpool Show, I had the misfortune to lose a sister, and was in consequence compelled to leave home suddenly. I left my affairs in the hands of my brother, who, in conjunction with Mr. Worrall, thought it would be more agreeable to the feelings of my family and myself, that my name should not appear in the catalogue; and the name of my groom was, therefore, substituted, with the full knowledge of the Liverpool Committee.

I abstain from making any comment on the *animus* of the writer, and simply regret that you should allow your columns to become the medium of circulating insinuations, from which, under the circumstances, I ought to have been exempt.—Gilbert W. Moss, *Liverpool Bank.*

[The above is an admissible explanation, and we regret that anything in our columns has given Mr. Moss pain. But, when his co-secretary, Mr. W. C. Worrall, throws stones, it is setting an example which other dissatisfied parties will not be slow to imitate.—Ed.]

W. C. WORRALL *v.* GOLDEN MOONEY.

Having partially recovered from the flagellation I have received from "Golden Mooney," (who would more properly have signed himself "Black Poland with White Crest,") I will, with your permission, reply to his statements and inquiries.

In dissenting from the Preston awards, I did not adulate the beautifully laced breast, but ridiculed its success, as I hold a laced feather to be as great a fault in a Mooney, as a moon on a Sebright Bantam.

The comb of my single Mooney cock is stated to be so large, that a Yorkshireman "would have exulted in its possession in a legitimate Red-cap." The fowl in question has now a matrimonial engagement, which will detain him at home until the beginning of June; at that time, however, I will show him against any Mooney cock in England, for a £5 Cup, to be placed, by the loser, at the disposal of the Birmingham Committee, as a first prize for a Single Cock of this variety. If I be beaten, I will wear the Red-cap; but, if successful, "Golden Mooney" must take it back, and own that I have added bells to it.

The condition of the fowl, at Preston, was in all respects equal to his Liverpool form; the livid comb must, therefore, be traced to the head of "Golden Mooney."

This correspondent is equally at variance with the truth, when he supposes that I have a desire to obliterate the Preston Show: far from it, I take the liveliest interest in its success, considering it one of the great institutions of Lancashire, and regret that it has not, of late, been properly judged; the Committee, however, are not to blame, as they made the most urgent entreaties to the Rev. R. Pulleine, and Mr. Baily, to officiate for them, but engagements prevented their compliance.

I will now reply to the insinuation conveyed in the remarks upon the fact of Mr. Moss's fowls being shown, at Liverpool, in the name of Armstrong; and I am happy to take the whole responsibility upon myself.

A severe domestic calamity having called Mr. Moss from Liverpool, on the eve of the Show, he wrote to me, regretting that he should not be able to assist me, and suggesting that it would be better, under the painful circumstances, if his fowls were not exhibited. After consulting with our Secretary, Mr. Edmondson, and considering the great expense, and trouble Mr. Moss had taken to prepare for the grand struggle, I determined to have the fowls shown in the name of one of his servants, but giving his own address, believing that it would considerate to the feelings of his family.

This circumstance was known to all visitors, and I feel certain that "Golden Mooney," even though he goes so far as to describe the condition of my Mooney cock, was not at the Liverpool Show at all.—Will. C. Worrall.

POULTRY ADVERTISEMENTS.

Among the many who have been disappointed in the purchase of eggs and poultry, I must be included; and although I am in want at this present time, and wish to repeat the attempt to procure good birds and eggs, my confidence is gone. In your advertising columns at present, I observe several in whom I have no faith; and where is the right individual to be found who will act honestly, and sell the articles he advertises? "Eggs from prize birds," "Poultry bred from Birmingham prize birds," are a deception. The latter may be of the third or fourth generation, and yet bred from prize birds.

Among several, I tried a black coat, and was *grossly imposed* on. Where am I to find a man in whom I can place confidence? Will you have the goodness to point out any

plan, where honesty in dealing can be insured? If you have such plan, by detailing it in your columns, I am quite certain that you will confer an obligation to many, as well as—R. G.

[It is beyond the power, even of an Editor, to make men honest; but, let us add, it is equally impossible to make men moderate in their expectations. Birds which have taken prizes do not, as a matter of course, breed birds capable of being equally successful. Who ever hopes to get a prize pen out of a single brood? It can only happen, after the greatest care in selecting and mating the parents. We have bought many sittings of eggs, and *have never been disappointed.* We were satisfied with getting two or three good birds, from which, *by mating with birds of another strain*, we could rear superior chickens. We scarcely see a name among our advertisers that we should not buy from with confidence.—Ed.]

POULTRY PRIZES.

What is to be done for the Dorking and Spanish classes, at the next annual exhibitions?

The solution of this question is looked forward to, with much interest, by those engaged in the rearing and exhibiting these varieties. Much having already appeared *pro* and *con*, it is unnecessary to enter upon any statement of entries *versus* prizes, but merely advert to the increased classes at the late Liverpool Exhibition. The institution of a class, for one hundred Game Cocks, was first attempted there, and met with a ready response from exhibitors; for, by the time the schedule of prizes was prepared for circulation, the class was closed. The Preston Committee appear to have imbibed the same views, for we observe that a similar class is in contemplation for the next Meeting of the Society. Exhibitors will hail this as a progressive step, particularly in those counties where the Game fowl is so generally kept; it gives an encouraging impetus to the rearing of this beautiful variety, it tends greatly to the improvement and further development of this class, for most breeders will admit, that to ensure success in rearing any kind, the cock must approach as near as possible to perfection—that purity of race, perfection of comb, carriage, and symmetry must combine, *at least* in the male. We may anticipate, then, an improvement in the Game fowl, because a greater inducement is offered for it; the result will be an increase of attention, but still the watchword will be "onward," "onward."

But this advantage only applies to that variety for which it is intended. The Dorking and Spanish have, as yet, received no benefit, excepting so far as the experience of the Liverpool Society shall hereafter induce the promoters, and originators of the Central Societies, to consider the propriety of adding similar classes for them (or one at least by way of trial) to their list of prizes for the ensuing season.

Whether the sub-division of Dorkings at all, to coloured and Silver Greys, or single, and rose-combed, is desirable, I leave to the decision of the same tribunals.—L.

SILVER-PENCILLED HAMBURGH FOWL, AND ROUEN DUCK EGGS.

A "Wiltshire Poultry Keeper" says, that if Silver-pencilled Hamburgh fowls have a good run, they surpass the other classes, both in exquisite beauty and egg-production. Being a keeper of them, I have found them the best layers of all the kinds of fowls I ever kept. I have had a supply of eggs all the winter; in fact, they have never ceased laying.

I know that some will say, that pure bred fowls are not profitable, but I have found mine very profitable, and they *are* pure bred. My old birds were bred from the pen which won the silver vase at Birmingham, in 1854, the coveted object of so many poultry keepers' ambition; and, I believe, all our most noted exhibitors' fowls are somewhat related to this pen. My run being on a cold clay subsoil, on an elevated position, one of the ribs from the so-called back-bone of old England, I do not call it a good one.

Last year, the pullets from my old hens were rather run; but, Mr. Hewitt having mentioned a similar case, I have put a young cockerel with them, as suggested by him.

I am not a regular exhibitor, but have exhibited at our local Show, Dewsbury, and have hitherto got one or more prizes.

My Rouen Ducks (Mr. Fellow's breed) commenced laying in November, and have continued doing so up to the present time, February 25th, except for a few days in frosty weather. Is it common for them to do so, or may the mild winter be the cause of it?—Rustic Robin.

BLACK HAMBURGHS.

I am glad to find from the letter of a "Wiltshire Poultry Keeper," that he entirely confirms my opinion, often expressed in The Cottage Gardener, of the value of the so-called Black Hamburghs. He says, "they are handsome, prolific, compact; and they surely merit a better fate than obscurity and oblivion." I have kept these birds six years, and, from my experience, I believe them to be the most profitable of all fowls. They are, by far, the most prolific egg-producers of all the Hamburghs; are a larger fowl, and more hardy. They have taken prizes, in the extra class, at nearly every Exhibition this season—Birmingham, Crystal Palace, Liverpool, Nottingham, Leamington, Wellington, Gloucester, &c. When, then, I ask Committees, are these valuable birds to have a separate class? What can they do more than they have done to deserve it? Their good qualities have been recognised by the Judges; when will Committees do the same?—A Norfolk Amateur.

BREEDING THE AUSTRALIAN PAROQUET, AND CINNAMON CANARIES.

Will you state, for the encouragement of those who have the Australian Paroquet, that it will breed in this country? A pair in my possession have produced three young ones, which are now seven weeks old, and the hen is now sitting on six eggs. I shall be very pleased to show them to any person who might call.

I would also add, having been the first person who produced the Cinnamon Belgium Canary in this country, that they first came by chance. I have tried for seventeen years to breed a cock bird of that colour, but never could succeed; nor did I ever hear of any one breeding such a male bird. I am of opinion that it is useless to try, having had a hen breed fifteen young ones in a year, and all of them were hens. —T. Moore, *West Street, Fareham, Hants.*

NEW YORK POULTRY FACTORY.

Messrs. B. and S. Beatty, of Aurora, Cayuga County, New York, are probably the most successful poultry merchants in America, and they have prepared the following statement of their business:—

The Dressing-house.—As we prepare for market over 1,500 Turkeys a year, besides other kinds of poultry, the greater portion of which we buy in a lean condition of the farmer, and fatten and dress them ourselves, it is necessary for us to have ample conveniences, and therefore we have appropriated to this purpose a building twenty-five by thirty feet on the ground-floor, with two rooms above, and also another room, adjoining the building, twelve by sixteen feet. This latter is the dry-picking room, where the birds are divested of most of their feathers. The lower floor of the main building is divided into a finishing-room and a drying-room. The first is provided with a large cast-iron furnace, for heating water, and regulating the temperature of the building, which is kept as comfortable as a dwelling-house. The other room is fitted with shelves, upon which the birds are placed to dry, after being finished off by the pickers. The packing is done either in the cellar, or chamber, according to the weather. There is a shed, fifteen by thirty feet, and yard adjoining the building, where the live birds are kept ready for slaughtering. This constitutes the general arrangement of this model poultry establishment.

The Process of Dressing and Packing.—The birds are hung by the heels, bled in the neck or mouth, and left until nearly done bleeding, and when still warm taken into the dry-picking room; and after most of the feathers are stripped off,

are passed into the finishing-room, where they are dipped for a few moments in water, that is nearly at the boiling point. The remaining down and feathers being taken off, the birds are washed in clean, cold water, and then taken to the drying-rooms, and laid on the shelves to dry. They are then carefully laid away until the animal heat is out, and then packed for market.

Boxes are preferred to barrels for packing; but as the express will not take large packages, and boxes are not always to be procured, we pack mostly in barrels, though they are not generally recommended. There is a way, however, for packing in barrels, which leaves the poultry in nearly as good shape as in boxes. We wrap all our nice birds in paper. We procure paper of the quality of the best tea-paper, of large size, with which we wrap each fowl, and put clean, dry straw between each layer.

Fattening.—Turkeys will not fat as well in large flocks as in small; but as farmers labour under the mistaken idea that it is not profitable to fat them, and prefer to sell them at half-price rather than do so, we are compelled to do it ourselves, to get birds which we consider marketable. Turkeys, to fat well and fast, should have a variety of food, and that which is the most nutritious, as they are quite dainty. Corn, sometimes shelled, sometimes on the cob, and sometimes ground, forms something of a variety. When fatting, they should be able to get to the ground, and have plenty of good clean water. They will feed greedily off sawdust, leached ashes, and charcoal, and these seem to assist materially in the process of fatting. In fair condition, and the weather cold, they might fat in two weeks; but as such is seldom the case, they require as much as three weeks. If shut up in a building, it should be light and well ventilated, and should have plenty of perches, easy of access.

Christmas Sales.—Our stock for Christmas consisted of between four and five tons, which came in, and was sold on the 22nd and 23rd for 14 cents for Turkeys, wholesale, which was the top of the market on those days. Had the quality not been superior, they would not have brought 12 cents, which is about what they cost us, delivered in the city.

Profit of Raising Poultry.—Raising Turkeys is very profitable when they are made to go off to the fields, when old enough, to get their own living on grasshoppers, &c. When cold weather comes on, they should be fed sufficiently to keep them growing until about three weeks before disposing of them, when they should be fed all they can eat.

Carpenter, Young, and Co., our commission merchants in New York, will sell about fifteen tons of poultry for us this season.

It is to be regretted that there was not just such a poultry factory in every county in this and several other States, for two reasons: it would encourage the raising larger quantities, and be the means of giving the farmers greater prices, and the consumers better food. The great mistake of the whole poultry business is, that the great mass of the immense quantity that come to this city is not fatted, and the birds are prepared for market in such an abominably slovenly manner, that they often sell 50 per cent. less than others put up in the manner described by Mr. Beatty. We urge preparation for largely-increased productions, and we earnestly recommend the establishment of poultry factories.—*New York Tribune.*

PIGEONS.

TOYS.

Variety 15.—THE LAHORE, or MARTIN PIGEON (*Columba Hirundo urbica*).

I have to acknowledge myself indebted to Francis Worrall, Esq., of Knotty Ash House, for the account of the origin of this variety of Toy Pigeon. That gentleman informs me they were brought from Lahore, in the East Indies, for Lord Derby's aviary; and that they breed well, and are quite true in the marking.

Those that I have seen were exhibited by the above-named gentleman at the Anerley Poultry Show. They were about the size, form, and general appearance of the Dovehouse Pigeon: in plumage, black and white, curiously and regularly divided. The top of the head, back of the neck, back, and wings, were black; the rest of the body being white, as the throat, front of the neck, breast, under parts, and tail. Thus, in the divisions of colour, bearing a strong resemblance to the Martin, or Window Swallow, *Hirundo Urbica;* the only difference being, while the bird in question has a black tail, the Pigeon has a white one; but even this difference will add to the delusion, when the Pigeons are flying at a little distance, as the white tail will closely resemble the white rump of the Martin, so conspicuous a feature of that bird while on the wing.

Variety 16.—THE MAGPIE (*Columba Pica*).

This well-known variety of Toy Pigeon derives its name from its pied plumage, bearing a fancied resemblance to that of the common Magpie (*Pica caudata*). They owe their origin to the German Magpie Tumbler (*Elster Tummler*); but, I am sorry to say, the English fanciers have quite disregarded their humbler origin, and have paid attention to plumage only, having bred them very coarse and mousey. Thus, while Toy Magpies are comparatively plentiful, the fancy Magpie Tumbler is scarce—a fact I much regret, as a very trifling amount of extra care would have given us a very pretty fancy Pigeon in place of a Toy, whose only property is feather. As to plumage, the head, neck, crop, the scapular feathers, and the tail, are coloured,—as black, blue, red, yellow, &c. The rest, as the wings, the lower part of the breast and thighs, are white; and in the accuracy of their marking their value consists. The scapular feathers, being dark, overlay the upper part of the wings, which cause them to appear somewhat narrow. They are called according to colour, Black Magpies, or Red Magpies. —B. P. Brent.

OUR LETTER BOX.

Preston Poultry Show (*J. H.*).—Any one attacking the decision of Judges must send us their real names, or we cannot insert their letters. If decisions are glaringly wrong, the effective course is for the exhibitors to memorialise the Committee, attaching their signatures to the memorial.

Diseased Cochin-China.—The symptoms are as follow:—Enlargement of the body so as to nearly touch the ground, and he waddles in walking, like a duck, but with much greater difficulty.—W. C.

[We should think, from your description, the Cochin cock is either ruptured, or dropsical. In either case, we advise you to kill him, as he is incurable. Birds of this breed are seldom roupy. It is likely the cold weather, and especially the bitter winds we have had of late, have given them colds; but, we have no doubt, a little extra feeding, and stimulants, will restore them. If that fails, give them Baily's Pills.]

Management of Young Chickens (*Subscriber*).—A boarded floor is always bad for chickens. Let them have a sheltered shed, or outhouse, the floor of which is covered with dry dust and gravel. The causes of their falling off, and death, may be many. If the hen is allowed to run about, if she has more than five or six chickens, if they are allowed to fast long, if they are not fed at day-break—all these would be sufficient reasons. Your feeding is good, add to it chopped egg. Chickens kept on boards are often lousy, if so, that will kill them. Supply them freely with dust, and mix a little black sulphur with it. Barleymeal and egg boiled hard is the best food for young chickens.

LONDON MARKETS.—March 15th.

COVENT GARDEN.

Notwithstanding the late inclemency of the weather, our market has been well supplied for the season. Among forced vegetables, we have *Asparagus*, *Sea-kale*, *Rhubarb*, and *French Beans*. From Cornwall, a good supply of excellent *Broccoli*, at moderate prices; and from the Scilly Islands, a fair sample of new *Potatoes*. The Continental produce comprises *Lettuces*, *Endive*, young *Carrots*, *Globe Artichokes*, *Radishes*, and *Asparagus*. *Apples* have much fallen off in supply, and are now considerably advanced in price, good sound sorts realising 10*s*. to 12*s*. per bushel. A large quantity of *Potatoes* still come to hand; but good samples find a ready sale at £8 to £9 per ton.

POULTRY.

There has been a decided falling off in the trade this week. The growing scarcity, common to this season of the year, prevents prices from suffering from it as much as they otherwise would.

	Each.			Each.		
Large Fowls ...	5*s*. 0*d*.	to	6*s*. 6*d*.	Wild Ducks ...	2*s*. 6*d*.	to 3*s*. 0*d*.
Small ditto.....	3 6	,,	4 6	Teal.....	1 9	,, 2 3
Chickens.....	3 0	,,	4 0	Pigeons	0 8	,, 0 9
Goslings	7 0	,,	7 6	Rabbits	1 5	,, 1 6
Ducklings	3 6	,,	4 0	Wild ditto	0 9	,, 0 10
Guinea Fowls .	3 0	,,	3 3	Larks, per doz.	2 0	,, 2 6

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WEEKLY CALENDAR.

Day of Mth	Day of Week.	MARCH 23—29, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
23	Tu	Chorozema angustifolia.	29.682—29.554	48—27	S.W.	—	57 af 5	15 af 6	3 a 37	8	6 44	82
24	W	Cantua dependens.	29.619—29.518	50—38	S.E.	—	56 5	17 6	4 13	9	6 26	83
25	Th	Lady Day.	29.656—29.405	55—21	S.W.	.02	54 5	19 6	4 37	10	6 7	84
26	F	Cantua bicolor.	29.870—29.636	56—31	S.W.	—	51 5	20 6	4 54	11	5 49	85
27	S	Cuphea platycentra.	29.986—29.973	55—36	N.W.	—	49 5	22 6	5 8	12	5 30	86
28	Sun	Palm Sunday.	29.974—29.915	55—41	E.	.01	47 5	24 6	5 20	13	5 11	87
29	M	Cuphea eximia.	29.816—29.537	54—48	S.	.18	45 5	25 6	rises	☺	4 53	88

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 51.4° and 32.8°, respectively. The greatest heat, 75°, occurred on the 26th, in 1830; and the lowest cold, 14°, on the 25th, in 1850. During the period 141 days were fine, and on 76 rain fell.

SPRING PROPAGATION.

Cuttings.—The first week of March was the hardest week for gardening we had this winter, and during that week, Mr. Kidd's mode of striking cuttings by tens of thousands, and millions upon millions, has been put to the test, tried and proved at once, not in the Experimental, it is true, but by the head foreman in the propagating department of that most honourable establishment, in the window of his own kitchen, and fireside at home; while the curator of the Experimental, and your humble servant, were both shivering with cold and fidgets, and not knowing that anything of the kind was being attempted under our very noses, till the cuttings were all rooted. But there they are, and one week—a long anxious week though it was—did the business for them, or for most of them.

Mr. Kidd said, that any light room in a house which was kept above 50° would do for this propagation, and, of course, if it was 60°, it was all the better for the cuttings. He also said that a bed-room would do; but when people write about bed-rooms, one likes to know if the writers are married or not. Bachelors, like Mr. Kidd, may strike cuttings in their bed-rooms, but for ordinary people, the kitchen and the drawing-room are the two best rooms in a house for this work.

Flower-pot saucers will do very well for a kitchen window, and if they are quite clean, and well soaked in warm water, and then half filled with sand, and half with warm water, what could be more comfortable for cuttings, or better looking in the way of crockery; unless one ventures on a china saucer, or a glass tumbler, all of which will do for this way, just as well as the best garden pot that ever was made. A little tin jug, or a square tin box, not bigger than a snuff-box, would do to try the curiosity of the thing, if it were kept out of the way of the children.

As for the drawing-rooms, there is no fear about them. All sorts, and all sizes of glass, of all colours; china ware of all shades of colour, and degrees of fineness, and everything that is likely to "take" and to pay, will be applied to drawing-room propagation as soon as it is as common as table-talk, and crinolined petticoats. So we need not trouble our heads on that score. But, who is to make the cuttings in the drawing-room, and who is to put them in, or who is to look after them, till the rooted plants are ready to be shifted into pots and boxes? are questions which we shall hear answered "by our own correspondents," as differently as are the different degrees of "position" among them.

For the more difficult kinds to manage on Mr. Kidd's system, and these kinds must first be proved difficult by the system itself—the Waltonian case is next genteel, and the easiest mode, and for the widest practice, the hotbed, with all its faults and inconveniences, is the best—it has never yet been excelled, and very probably will never be in the nursing stages of nine-tenths of all the pot plants in cultivation. But, the application of this new mode of striking cuttings may be as easily and as surely carried on in the hot-bed, or hot-water propagating case, or in the nursery ways, or, indeed, in any way that cuttings were ever rooted before—as in the kitchen window—and the after-treatment of the rooted plants need not differ in the smallest degree from the way, or ways, in which they used to be done.

Let cuttings of bedding plants be once rooted, then prick them off in a very light rich compost, and they will be just as easy of management as if they were rooted under a transparent new bellglass in bottom heat, and perhaps ten times more so. Then what fun for boys and girls to pull out a cutting, here and there, to see if they are rooted, and be able to put them in again, and no harm come of it; also, what a comfort to find that one can pot off eight cuttings out of a dozen, as soon as they are well rooted, and not disturb or harm the other four, which, by reason of their firmness, have not hardly made a root yet. Rose cuttings, and cuttings of Geraniums, together with Myrtle, Oleander, and Orange cuttings, must be tried in the same way, for no one can yet say how far we may venture on the new scent.

Any one, having a Cucumber bed at work, may now set the head to work also in a new direction, and be able to teach the best of us in something which we were not sure about, or knew anything of before; I should not think that the new plan would bring dead cuttings alive, but anything short of that can hardly be doubted. I recollect one very good precaution, which was advertised, when the new composition for causing the hair to come on bald heads was discovered—the advice was, not to use it with bare hands, lest they should become as hairy as the hand of Esau; and, it may be as well to give a hint on this method, to the effect, that in order not to have too many plants, or ten times more than one has room for, it would be just as well to put in some cuttings in the old way, and continue to do so, until the capability and whole strength of the new move were thoroughly understood: too much of a good thing is as bad as too little, and it would be vexatious to be obliged to throw away many plants the moment they were struck, on finding that there were too many struck already; besides, last winter was most favourable for keeping old plants. I never passed a winter so safe as this; and at the Experimental they are even better off than I am, nothing of any account having damped off, or frosted.

Seed Propagation.—Such as are not up to the ways of managing very young seedlings in heat should not begin early. The end of March is not at all too late for most seeds in heat; and even a very handy practitioner, who would not lose ten seedlings out of a thousand, if he had glass room for them, may get sadly hampered with early seedlings, for want of room, and thus be tempted to turn many things out of doors too soon, at the end of April. To cut according to the cloth was never more imperative than in the month of March for the flower garden; and the

more haste the less speed was never better exemplified, to my own knowledge, than when my best friends were on their hobbyhorse, full mounted, after the March lamb; but it may be somewhat difficult this spring, as March came in like a lion. Still, I would advise to begin with sowing such seeds as Cobæas—they can never be too early. Tigridias, again, are quite safe to sow any time in March, or a month sooner another year; the seedlings come like Barley, and they will flower next September in the mixed border. A dozen of them in a ball, set in patches, would then bloom till the frost stopped them. Then, if these balls were taken up entire, and planted carefully in a box, six inches in depth, filling in the spaces between the balls with damp, light, sandy soil, and letting the leaves take their chance, the bulbs would keep fresh all the winter, and be ready to be shaken out this time next year, and be potted in threes, in the smallest pots that would just hold them. They would be ready for the flower-borders early in May, and bloom from Midsummer till the October frost. Every year after, each ball should be lifted, and managed as for the seedling. That is the only secret in keeping Tigridias, the most gorgeous flower that will bloom out of doors with us in the autumn, not excepting the Japan Lilies, the nearest to liken them to. But from an idea that the Tigridia bulbs can be kept dry in winter, as Hyacinths are kept in summer, we seldom see the Tigridia now-a-days, as they were wont to be planted in my younger days. There is not a man out of a thousand who can keep, or half keep, these "roots" during the winter, unless they are well packed in earth, which is never quite dry during the winter; that is, roots cultivated in this country. They ripen better abroad; and there, or in many foreign places, they keep as well as common Lilies. This is just the month to begin to learn about them, and this plan of having them from one's own sowing is most certainly the surest.

But I ought to pull my own nose for omitting to say that this is not, properly speaking, the best time to sow Cobæas; it is only the best time, because we never manage Cobæas right in this country for the flower garden. Look at the Cobæas at the Crystal Palace just now; they will be in bloom before Midsummer, and we ought to have them quite as early out of doors, though we never see a bloom on them till September; and, very often, not a bloom at all. The middle of May is the proper time to sow these climbers, for out of doors; then to keep them in pots all the summer, and to plant them out when they are twelve months old. They are famous plants to keep over the winter, if the frost is just kept from them, and the roots are not allowed to shrivel up, and die, for lack of moisture.

Humea elegans.—The Humea is a true biennial; no matter how soon it is sown in the spring, it will not bloom the first year. The smallest garden ought to have a pair of Humeas in bloom every year. They assume the shape of fountains, and cannot come amiss near a house, or far off in the distance. They sell year-old plants of them now at the nurseries, and there is a great demand for them; but some gardeners prefer to get them up, and rear them at home, and make huge specimens of them; but that is mere fancy, they do not look the better for being very large. There is a sad vulgarity encouraged by the Horticultural Shows, which has got hold of vast numbers of the public, and will be very difficult to eradicate, with reference to large plants. A Humea clothed to within a foot or eighteen inches of the pot, at the time of planting out, will rise to from five to six feet high, and be five feet in diameter in the widest part, before the middle of July, and looks better and more Humea-like than if it were ten feet high, and actually smelling of a London Show.

From the middle to the end of March is the best time for most people to sow seeds of Humea; but a month later is a better time for those who are much pinched for room. The way to grow a Humea the first year, so as to flower the next, as here indicated, is to treat it exactly like a greenhouse Geranium till the end of June, or the middle of July, and after that to manage it like a full-grown plant of the *Tom Thumb* scarlet Geranium. If you keep that in view, and give no heed to those who coxcomify the treatment of all out-of-the-way plants, you are sure to have Humeas like a Briton.

In my wanderings I meet with all degrees of practical knowledge, and I find it much harder to convince about the simplicity of a thing, than all the rest put together. There has been so much tomfoolery written about composts, about fiddle-faddling with this and that plant, or seed, or bulb, or cutting, that the wonder is, how people have taken such a liking for gardening at all. There is nothing in the world so easy, than to learn how to manage ordinary plants for flower gardening.

Every seedling for the flower garden will grow very well in one kind of soil; no compost is at all necessary, unless you happen to have old leaf mould on the place, and some of it sifted is very good for seedlings, and for most plants. Where the moles were at work last winter, and the mole hills have been frosted, there is no compost better for seedlings than that mole hill, with as much sand as will make it a light, free, open medium for roots. Where Onions, or Cauliflower, or Celery, or any good crop of vegetables came off last season, the surface of that soil, after being frosted, and beat up with the back of a spade when quite dry, will make as good a compost for seedlings, young-rooted cuttings, and all small plants for flower-beds, as all the fiddling in the world can produce; a little sand with it is all that is necessary, and a very little sand will be needed for the second shift, in nine cases out of ten. Then, with such a free, clean compost, all *our* seeds may be sown with the greatest confidence. And seed-pots ought, "by rights," to be plunged in something; that is another of the grand secrets; the something may be anything, because the meaning for it is to keep the outside of the pots from getting too dry, and from being hot and cold alternately, all of which will make water necessary; whilst we all know that the less water seeds and seedlings receive, the more healthy the plants will be.

The next best way, where the seed pots cannot be plunged up to the rims, is to put a lot of them together, as close as the pots will stand, and to cover them all with old newspapers—then to keep an eye to the seedlings, and upon no consideration whatever, to leave one pot under the paper longer than the second day after the seedlings appear above ground; but still, these seed pots which "are up," as we say, must not be left in the sun, nor the sun even to touch them the first week, unless it be morning and evening; they also ought to be tried here and there, every second day, to find out how much air they will stand; if they are in a greenhouse, if the seedlings droop the least in the sun, or in the air, it is too much for them yet, and when they will boldly face either, you must think about potting them off, pricking them out, or colonising them, and that is just the time to prove if the seeds were sown judiciously. It is very difficult to sow the seeds of Lobelia, Calceolaria, and a few others, thin enough; and it is equally difficult to know how to sow the seeds of all kinds of everlasting flowers, when most of the chaff must go with the seed; all these little steps will now, at the time of potting off, appear long ladders,

with all the steps likely to break down the moment we tread on them.

Just watch your own seedlings for the next six weeks, and if my words do not come true, they will not "stricke" you. All seedlings from very small seeds do best colonised; that is, to be potted in little patches round the sides of the second pots, with only half an inch between one patch and another. My plan for all seedling climbers, is to put three of them in small 48-pots, instead of one plant in a 60-pot. You try both plans, and you will soon learn the easiest; for my part I am so old, and so convinced with a long long course of practice, that I would put three seedlings of *Lapageria rosea* in this way, rather than pot them off singly at that age. I put five *Thunbergia alata* (the (Black-eyed-Susan plants) in small 48-pots to begin with, and three Canary-bird climbers, three Cobæas, five Maurandias, five Lophospermums, five Ipomæas, or any kind of Convolvolus, and so forth.

After ten days or a fortnight, or indeed, when there is time, and room, and extra pots—three very scarce things by-the-bye—these nursing 48-pots may be shifted in a size larger, or the balls partly broken, and the plants to be singly potted, or not, according to kinds and the time of the season. It is a safe plan to plant out three plants for one, when you have them to spare; therefore if I had a good stock by the end of April, I would never part a pot with three or four seedlings in it, merely to say that I could manage such feats.

I am of the very same opinion about cuttings. I seldom put them "one and one" into pots. It is more work to have to repot twice; but this cry of more work is sheer nonsense for such easy work, and work which is sure to put a man in good humour, if he was ever so cross at the time. I have three good receipts against crossness, and cross-grain looks: the first is, push a man through a door into the presence of ladies; get him to try his hand at potting off very tiny plants, or seedlings; or make him watch bees coming in and out of the hives; and I never knew one of them to fail yet. Then it would be worth while to contrive to have a little extra work of small potting, in more places than one, and for more reasons than one; but if the room saved by having three, four, or five in a pot, instead of one, and less attendance and care for the larger pots, together with the extra health and vigour of plants, not over cramped at first—I say, if all these considerations are added, the sum total will be far beyond the value of a few hours extra work. Nurserymen are obliged to pot off singly, to suit the trade: they must not sell three plants for one. People go to the nursery, and copy what they see there; then young gardeners learn a good deal in the nurseries, and take it for granted, that what suits best in a nursery, must be the best practice. Therefore, it is up-hill work, when one wishes well of his craft, and desires to simplify it, and to make it a course of pleasure and enjoyment to all who reads, or hears his plans and precepts.

D. Beaton.

STRAWBERRIES IN MARCH.

As springs return, the usual round of spring business comes to hand; and, amongst the rest, the dressing of Strawberries. It has ever been a peculiar feature of The Cottage Gardener to treat, as much as possible, of matters pertaining to the period of publication; and, in this way, it has doubtless proved a most valuable reminder to thousands. That it has much enhanced the taste, and greatly improved the practice of the owners of gardens of moderate size, there can be no doubt; and, I think, the rapid advance made in such respects can be, in a great measure, clearly traced to the writings which have appeared in this useful work; for in it may be found practical (and, I may add, practicable) papers, at least equal to any work in our days; and this, too, under a most unassuming guise.

Before proceeding to Strawberry dressing, it will be well to say something concerning the different modes of culture, for the mode of dressing, in some degree, depends on this. We have, first, to consider the habits of this plant; what conditions suit it, and the reverse. As to soil, there is no doubt that a soil, about halfway between the adhesive and the loose, or sandy, is best; but people cannot always choose their soil, and the business with this, as with many other garden crops, is to assist them all we can under adverse circumstances. In soils that are too sandy, it may be advisable to prepare drills or beds especially for them, in which marl, or sound loam, is introduced and well blended with the soil. Adhesive soils may, by a similar rule, have lighter or more sandy matter introduced; but these things being tolerably obvious, I pass on.

One thing may here be observed, that to obtain the heaviest crop, is by no means to secure the highest degree of flavour; indeed, we may generally look to lighter crops for the highest amount of flavour. There are three particular evils which are most apt to befal the Strawberry plant—running too much to leaf, barren blossoms, and the canker. The first (a very common evil) is caused by a too free use of manures on very free soils, where a most rapid root action prevails on the heels of every shower; and plainly points to the desirability of a more solid soil, with (by consequence) a steadier and more permanent root action. The second—barren, or bad setting blossoms—is the consequence of badly organised blossom-buds, and the causes must be sought in the preceding summer's growth, or possibly at times, in a severe winter succeeding it. Late-made foliage, from whatever cause, is apt to produce imperfect buds in the Strawberry as in other fruits; buds, also, less able to withstand a sharp winter. We often hear of forced Strawberries setting badly, and this is generally charged on the air of the forcing structure, but not always justly. As for the canker in the stems, or roots; this is sometimes engendered by a maggot, or indeed the cockchafer grub, but it sometimes originates without; and, in such case, it argues something inimical in the soil, independent of manures, and points to the necessity of making extra preparations. There are several modes of cultivating them; some, prepare beds; others, as our great market gardeners have, single rows in parallel lines; others, as edging, &c.; and some, on walls or steeps, in order to acquire the highest degree of flavour. Again, as to the age of plants, some still retain Strawberries until they are half-a-dozen years old, or more; others (and the majority in these times), prefer the frequent runner system. The latter has everything to recommend it, producing finer berries, and heavier crops, with less foliage; and, in addition, furnishing more frequent chances to carry out rotations in our kitchen gardens. One of the worst matters pertaining to old Strawberry roots, is their producing such a host of leaves; these are sure to prove injurious to flavour. If any person, experienced in a garden, wants to eat a good Strawberry, he will not go to the grossest plants for it—to plants choked with foliage. Indeed, in the latter, there is a constant temptation to cut away, or otherwise infringe on their leafy character. Those who wish to grow first-rate Strawberries on the frequent runner system, should be early at work with their young plants; for, under early and high culture, a very respectable crop may be obtained the first summer after planting; and, by this practice, the plants being short lived, it is of the utmost importance that

not a day be lost. What I would recommend, then, is to make plantations in July as early as possible; and to fruit them the next two summers, and then to break them up, unless they possess particular promise.

Now, we all know, that runners are produced liberally in June and July, without any particular anxiety; but it is possible to hasten runners by a little attention, and to gain a whole month, which is of the utmost importance in this affair. The best practice I have ever seen, to carry out this object, was first observed by me no less than forty years since. It consisted in growing single rows of esteemed kinds specially for runners, to force or to make new plantations. On each side of these plants was annually strewed, in the end of March, a coating of light rich compost; the runners, as they shot forth, were almost daily watered; and, by these means, strong plants were obtained weeks before those who neglected them. Here it may be observed, that there is some difference in the choice of runners; it is not by the quantity of fibres alone we should judge, but by the stoutness of the crown principally. If any plants have proved somewhat barren, the runners should, by all means, be rejected. The soil should be deeply dug, and manure put in the bottom of the trench, in order to decoy some deep roots, which will sustain them in the drought of summer. Care should also be taken that some manure is mixed with the body of the soil. I think it the best plan to plant them twice as thick in the row as they need to be ultimately, and to remove or destroy alternate plants, after the first year's crop. The rows should be from three feet to three feet six inches apart.

We come now to the question of digging and spring dressing. Some advocate digging between the rows just down the centre, others as strenuously oppose it; the majority, in these times, being of the latter class. I will not affirm that digging should, on no occasion, be practised; but this I say, that if the ground be adapted for Strawberry culture, and properly prepared at first, there is no occasion for digging: indeed it is a positive injury in many cases, as to the frequent runner system. Where rows stand over for several years, and the soil becomes hard, and manure is required to be introduced, digging may be resorted to; or where young plants are much too gross, the spade may be used to check luxuriance in the foliage. All that is required, as summer culture, is to keep weeds and runners down; and, in the beginning of March, to trim all decaying foliage clear away. If they are rather weak after a year or two of bearing, some manure should be spread round the crowns, and between the rows. As for those which require to be dug, I recommend that it be done in autumn, about the middle of October; and that only one bold spit be dug down the centre between the rows, digging deeply, and introducing manures if necessary. My reasons for early autumn digging is, that spring digging checks too severely; the consequence of which is, that the blossom opens in a false condition, and sets badly; this I have often proved, and have also been assured of the benefits of early autumn digging. By digging in manure, early in October, the roots of the Strawberries will be found by the period when the blossom-truss is arising, to be freely at work amongst the fresh manure. As for bed culture, it is seldom we find satisfactory fruit by that process, the chances are so much against their ripening successfully. They become smothered with foliage, runners accumulate amongst them in all directions, and dead and decaying foliage lodges almost beyond the chance of extrication. If a wet period occur at ripening time—which is not unfrequently the case—who can expect fine flavour from berries which never get a glimpse of the sun, and amongst which the air can scarcely circulate?

Strawberry rows, or beds, dressed early in March of all decaying or extraneous matter, are in an excellent position to produce clean and boldly-developed foliage, unimpeded by other matter; and every summer process requisite is, of course, facilitated thereby. I may here remark, on the necessity for applying moisture to Strawberries in dry periods. It is well known that a good crop cannot be expected, if the plants suffer from drought. The most critical period is from the first appearance of the blossom-truss, to the time when the fruit should be swelling fast: perhaps, whilst in full blossom, they demand more attention in this way than at any period. In order, however, to obtain high flavour, water must be withheld during the colouring period; and although they may not be large enough for exhibition purposes, they will be much more gratifying to the palate. I do not think that, as edgings, they are very satisfactory, especially in our kitchen gardens; they are too apt to compromise operations needed by the adjacent crops, whether of fruit or vegetables. In very small gardens, however, persons are sometimes compelled thus to cultivate them, owing to the severe limitation as to extent. As to earliness, I have repeatedly known the earliest Strawberries to be gathered from edgings in a low and warm situation, bordering a sand or gravel-walk.

The kinds of Strawberries now have become very numerous, and, certainly, noble-looking fruit are produced; but I am not aware that any advance of importance has been made in point of flavour. I think the true old *Pine* of former days, with its bottle-neck, equal to anything we have as novelties. One advance has been made irrespective of size, and that has occurred, apparently, through making use of the *Hautbois* as a cross; for we certainly may detect its flavour in many of the new kinds, as also trace its character in their foliage.

Let me here protest against cutting away the leaves of Strawberries, during the growing season; or, indeed, at any period, except at the spring dressing. In summer, the foliage is required to form the bud, and in winter for protection. If Strawberry plants become too thick, or bushy, it points to the propriety of making new plantations; for if leaves be removed to let light in, as it is termed, it is only fair that the whole shoot, or bud, they belong to, should be removed also. This, however, would be found a somewhat tedious process. To dress Strawberries, as some do in October, for the sake of making the garden look neat and clean, is to run the risk of much injury to the crowns and roots of the plants.

It is rather strange that we hear so little about Strawberry walls, of late; about a score years since, they were making a great noise; I suppose they have been found rather tedious. There is no doubt, however, that finer-flavoured fruit can be grown on them than on ordinary ground.

The culture of very late, or succession kinds, does not, I think, receive the attention it deserves; for it is possible to have a regular succession from the earlier part of June until the end of August, as to the larger kinds; whilst the *Alpines* will carry it on till November. The *Elton* appears still at or near the head of this section; it is, indeed, a good late Strawberry. I am of opinion that if the runners of this kind were obtained very early, and, what is termed, "pricked out" on good soil, suffered to remain all the winter thus, and planted out in cool aspects in the end of February, that they would be a first-rate September fruit. The moving them in February or March with balls, would slightly retard them, and that without injury to the crop. R. Errington.

LITTLE HINTS FOR LITTLE GARDENS.

Peach Tree Blossoms shrivelled.

"The weather being so cold and frosty, I was obliged to put on good fires, to keep up the recommended degree of temperature; and the sun coming out powerfully, I gave a great deal of air, and yet the blooms near the openings were shrivelled and parched up, as if they had been burnt with a strong current from an oven." Exactly so. The Peach tree is impatient, especially in its earlier stages, of much fire heat. When in bloom, and in such cold nights as we have had lately, it would be safer to have the house below 50° in a morning, than many degrees above it. A high temperature at night has ever a weakening tendency, as it encourages mere exhaustion, without addition of solid material. Though average temperatures may be spoken of, with great propriety (and in ordinary circumstances must be adhered to), still, in extraordinary circumstances, they are better kept in the breach than the observance. For instance, we shall suppose that it is desirable that the night temperature of a house should be 60°, in ordinary circumstances (and that is 5° higher than I should wish a Peach house to be), until all the fruit are set and swelling; but a sudden fall of the thermometer, out of doors, of 10° or 20° takes place, accompanied with a searching wind; and, in such circumstances, if I could not protect the house by any means, I would prefer to allow the inside temperature to fall 5° or 10°, rather than debilitate the plants by a dry atmosphere, or keep the heat and moisture in unison by a needless waste of fuel; recollecting that though, in such circumstances, I can raise a suitable amount of moisture in the atmosphere by evaporation, that yet all evaporation exerts a cooling influence on the body from whence it comes, and thus cannot be secured without an extra poke at the furnace. By acting on this principle, you can safely allow the house to rise with sun heat, during the day, some 20° or so, and with but comparatively small openings for air; and thus no drawing, or weakening, of the tissues of the plant takes place, because the expansion by heat is neutralised, by the assimilating powers imparted by the sunbeam. Peach and other trees, thus treated, will ripen their fruit rather sooner than those kept to a high uniform temperature at night, whatever the outside weather.

If, instead of being sunny, the day should be dark and lowering, after such a frosty night, it is an easy matter to raise the house from 5° to 10° during the day, by a little fire heat; as, though dull, there is more light then than at night, and the slight rise will not only be natural, but be attended with no debilitating consequences. Fire heat should not, then, be given, to any extent, until it is pretty evident that there will be little or no sun: every good fire attender ought, therefore, to be able to judge pretty correctly of what the weather will be for the day, at least. How often, on a cold morning, are the fires set going vigorously the first thing, without ever feeling the pipes or flues, and without ever so much as scanning the sky, to judge what the day is likely to be. Need we wonder, then, that such things, as our correspondent complains of, take place? The pipes or flues are well heated, the atmosphere thus also, very likely, extra dried; a bright sun, with its heat, penetrates the house; the fire heat and the sun heat meet—the thermometer gallops up; air is given, and then more and more; the dry heated air rushes out, and the dry frosty air rushes in; and, by the two dried currents, the tender flowers are pretty much as well drained of all their available juices, as if you had repeatedly brought a plate of hot iron in near contact with them. Of course, I am speaking of a day when, though the sun be shining, the air is piercing and dry enough to crack the hands of those exposed to its influence. I am not alluding to a day, when the air is mild and moist; but, in that case, neither would there be any necessity for strong day fires.

Had I authority, I would wish it to be established, as one of the first principles of forcing, that "a strong fire heat and a strong sun heat should not meet together." In large houses, containing their thousands of cubic feet of air, the breaking of this rule will be attended with less danger. In all small houses, quickly heated and quickly cooled, such a meeting of heating forces, and especially in the weather referred to, will always be liable to produce injurious results; to say nothing of the extra fuel consumed. Supposing that our inquirer, on glancing at the sky in the morning, had come to the conclusion that the sun was likely to be bright, and would be on his house ere long; then, if there was any heat at all in his pipes, it would not be desirable to increase it, unless the house was very low indeed. The atmosphere would thus escape being extra dried; the sun would raise the heat gradually; and, if the wind was very piercing, it would be advisable in this case (and indeed in every case) to give a little air *early*, and just a little more when required, but giving altogether in such circumstances as little as possible, so that the house did not get too high; and it is very little air that is wanted to secure that, if the openings are made *early*, and the heating medium is next to cold. In extreme cases, when the wind is sharp and dry, instead of openings above a few inches in width, it would be advisable to slightly shade the house. Even throwing a little water over the outside of the glass, with a syringe, will often be useful. Much injury is often caused on a bright sunny day (and having a keen dry air), from thinking that hardly too much air can be given in such circumstances, whilst less than is generally given will be quite sufficient, if the house is kept comparatively cool at night; and the heating medium is coolish before the sun strikes the house. I do not at all undervalue fresh air when speaking thus. Were I near a coal pit, I would never have plant-houses, or forcing-houses, thoroughly shut. I believe they need fresh air at night, quite as much as during the day. The giving of air *early* in the morning is just a compromise, between utility and pounds for fuel. For want of that compromise, however—refraining from opening the ventilators, until you could scarcely pass through the house for heat, and giving it freely then—many a fruit has been scalded, or arrested in its growth, by the sudden change.

Then, how would you proceed in such weather as we have lately had? Well, here is a Peach house, in bloom, with a roof at 45° slope, ten feet high, and ten feet wide. In the frostiest nights, the temperature (with evaporating pans on the pipes, to give moisture to the atmosphere) was scarcely 50°. In frosty sunny days, the pipes are allowed to get cold. A very little air, say an inch at every alternate light, is given, as the glass approaches 60°; as much in the other lights as it nears 70°; and about one inch and a half, or two inches all over at midday, if the glass ranged from 70° to 85°, and even a little higher for short periods; with water syringed over the pathways and floors, that the air passing out may be so moist as to moisten the dry air as it enters. Not a flower, nor leaf, would grumble at such treatment. Put a roaring fire on in the morning, and pull your lights down from six to twelve inches in such a sunny cold day, and I should expect something of what our correspondent complains of. One thing is certain, that fire was hastened to do, what the sun would have done far better. Of course, in a mild day, the atmosphere moist, and the outside thermometer ranging from 40° to 50°, or more, such rules as to air giving do not apply. However, when houses

are shut up at night, a high temperature kept up then, and the effects of that neutralised by next thing to opening the house during the day, when a high temperature from the sun could do comparatively little harm, we may be just excused for thinking, that, whatever the results, they are not distinguished in the economical as to the means.

I have said much on the above case, yet I must not pass by the complaints about Cinerarias losing their leaves, by shrivelling and drying up; large Calceolarias doing the same, and getting covered with green fly; forced Azaleas having their flowers appear as if they were scorched; Camellias dropping their buds; and Pelargoniums, Dielytras, Primulas, Salvias, &c., flagging and curling their leaves, even when in all the cases the soil seemed moist enough. The other week I mentioned, that this would frequently take place, when bright sunshine succeeded dull weather, and that the syringe and the shade were the best remedies. No doubt, however, such appearances as the above, in cold frosty weather, are often owing to the same cause as parched up the Peach blossom. In addition to a sufficiency of moisture at the roots, a cooler temperature at night, and a moister and closer atmosphere during the day, would have prevented all such appearances. Here is a nice little greenhouse: the night temperature is kept from 45° to 50°, if there is a cutting wind, and from 12° to 20° of frost outside; what does that matter, when there is plenty of fuel? Well, 50° or rather more is reached, and the succulent leaves of the Cineraria begin to feel the sucking moisture powers of the dried air. It is very cold next morning, and a strong fire is applied, that of itself would raise the house higher, and without neutralising agencies, in the way of evaporating moisture, would dry the atmosphere of the house still more. The sun shines brightly; the temperature of the house rises rapidly; and to keep that down, down goes the lights for a foot or eighteen inches, that the dry keen cold air may rush in, because what was formerly inside was not dry enough already. No mere root-absorbing power could meet at once such sudden changes, and leaves and buds become irreparably injured; and yet, for all this firing and airing, the operator may quote chapter and verse, and myriads of authorities. The treat may yet be in store for me, but as yet I have never seen large flowering Calceolarias—those generally grown in pots, that were thus roasted at one time, and permeated by freezing dry air the next—that were really worthy of being looked at, free from insects, and with fine green healthy foliage, extending far beyond the rim of the pots. I hope that a few may just perceive, that in cold frosty bright weather they may keep their plants as healthy, if they use rather less fuel at night; and though giving air early, give much less than they have been in the habit of doing in cold frosty days. In such circumstances, growing fleshy-leaved Calceolarias would be better a little under 40° at night than above it; and provided a little air was given early, so that the foliage would generally be dry before the sun shone strongly on them, a rise of 20° or more at midday would do less harm than abundance of a dry freezing air. A cool moist substance, for the pots to stand upon, will be in their favour. For want of these simple precautions in their cause, and using water too warm, these beautiful flowers cost frequently more than their after appearance is worth, for tobacco and smoking alone.

R. Fish.

INGA PULCHERRIMA.

How seldom we see a plant of this lovely stove shrub well bloomed. At the best, I confess it to be rather difficult to bloom well; but, under proper management, it is quite possible to flower it respectably. Nothing can possibly surpass its elegance, when well flowered. Its fantastic-shaped balls of crimson, resembling the plume of feathers on the head of a tropical bird, contrasting so beautifully with its graceful Mimosa-like foliage. On the whole, it is not quite so difficult to manage as the *Bugainvillæa*, mentioned by Mr. Beaton; but we may safely class it amongst those things which are difficult to bloom well. A plant at this place I annually succeed in blooming pretty well by giving it, what I may safely call, "rough treatment." As soon as the wood is pretty well ripened, I remove it into a cold house, exposing it fully to the sun; here I allow it to remain until February—the thermometer occasionally being nearly down to the freezing point—giving just sufficient water to keep it in existence. I then remove it into a new-started vinery for a few weeks, subjecting it to the same treatment as the Vines, until its buds are nicely burst; then remove it into the stove, where it remains until blooming commences.

I think it scarcely possible to bloom young plants; I would, therefore, suggest that the plant be grown on as rapidly as possible. Never prune. Tie down the strong branches. When you have obtained a good-sized bush, say five feet high and three feet through, then subject it to the "cramping system," confining its roots, as much as possible, with rough treatment. I am inclined to suppose that, in many instances, too much "coddling" is the principal cause of its blooming so shyly.—John Edlington, *Winch House, Seacombe, Cheshire.*

STOCKING A MARINE TANK.

I should like such of our aquarium readers who give their attention to marine objects, to succeed in keeping them free from the many annoyances, and failures, that are apt to beset this department of in-door aquatics. To say that the affair is quite simple, is to lead people astray; for in truth there is a great deal to learn, and much of the *rationale* of management is beyond the region of mere book teaching. Except in spots near the sea, too, marine aquaria are attended with considerable expense, as I find, by a review of the costs I have myself incurred, during the past three or four years. Having watched very closely the way in which mishaps occur, and being constantly in receipt of letters from correspondents, describing all sorts of successes and failures, I think there is no possible difficulty which may occur, the cause of which I cannot detect, and, at the same time, determine on a remedy. Now that we have got over the preliminaries, let us consider the safest method of setting up a marine tank.

The first question that may arise, is, as to *artificial* versus *real* sea water, and though I have said much in praise of the substitute, and have nothing to retract, the time is gone by for any further recommendation of it, for, as a matter of course, the *real thing* is *the* thing, and one gallon from the reservoir of Neptune is worth fifty from the chemist and the water-butt. When the compound was first introduced, on the recommendation of Mr. Gosse, it was in great request, and proved really serviceable, but the demand for sea water has resulted in such a perfect organization for its supply, that Neptune has utterly triumphed. It should be known, therefore, that sea water may be had from the dealers in aquaria, at the rate of sixpence a gallon, and as it travels any distance in stone bottles, students living in the most distant parts may obtain it easily. But we must not dismiss the chemical substitute without, at least, a word. Those who use it must not trust any living creature to it, till it has undergone some little preparation. It should be prepared in a clean vessel, and either spring or river water will do for the purpose. A pound is reckoned to make three gallons, but the only proper way of determining its strength, is by means of a specific gravity bead on a hydrometer of very low register, so as to indicate 1·028. There are two kinds of beads, one to float when the water is of a proper strength, the other sinks; and whichever be used, it must indicate to a nicety the exact density. I use both kinds in tanks containing delicate objects, as the slightest deviation from the true standard might prove fatal. The moment the floating bead has a tendency to sink, I know the water is as weak as it should be, and if the sinking one

begins to rise, a little fresh water must be added to keep it down.

. To make artificial water fit for use, the best plan is to mix it in an earthen pan, bring it to a proper density, and then throw in some waste Algæ of any kind, such as the dealers pack the specimens in for travelling. In the absence of waste sea weed, some tufts of *Ulva* or *Enteromorpha* must be put in, and left for at least a week, at the end of which time the water may be transferred to the aquarium. Take out the plants, and put them where they are to remain in the tank, and pass the whole of the water through a filter. I find nothing so effectual for a filter as a clean old flower-pot, and in my sanctum, where my marine vessels are used rather for study than show, I keep a six-inch pot always swinging over each; into the hole thrust a piece of sponge, just tight enough to allow the water to drip rather rapidly, and it will pass through as brilliant as if just dipped from mid-channel. A chemist's glass funnel is a more elegant filter.*

A beginner should first adopt the pretty, but very common, "Mes," that is, *Actinia mesembryanthemum*, or Strawberry Anemone. This is the hardiest of the whole race of sea flowers, and plentiful as it is everywhere on all parts of the coast, it claims a place in the richest and choicest collection.

In real sea water, half a dozen sorts may be adopted at once, and the easiest to manage, in addition to the one named, are the snaky-locked Anemone, the grand *Plumosa* or *Dianthus*, the delicate Daisy *Troglodytes clavata*, and *gemmacea*, the "gem." With such animals it is of the first importance to have some healthy tufts of *green* Algæ, and the two kinds so often recommended, are *Ulva latissima*, the sea Lettuce, and *Enteromorpha compressa*, a very grass-like and fast-growing plant. These not only enhance the beauty of the scene, as they spread their bright fronds over the rockwork, but they contribute to the water that primal element of organic life, oxygen. Here, however, we note a remarkable difference as to economy and management between the marine and river tank. In the fresh water vessel, a sufficiency of plants is sure to be productive of a sufficiency of oxygen, but in a marine vessel the plants alone are *never sufficient*, and artificial means must be resorted to, as a sort of atmospheric "rate in aid." I have heard it stated by "learned lecturers," and have seen statements in the books of "learned writers," to the effect, that you have only to leave the whole to Nature; but, from patient observation and experiment, I am prepared to maintain against all comers, that to leave a marine collection to Nature, as they call it, is to give the creatures free consent to perish as soon as they please; and they will not be slow to avail themselves of the privilege of entering into a state of corruption.

After all, this supposed "leaving it to Nature," is, in reality, perverting Nature; for does not the good old mother teach us that incessant motion is the normal condition of the ocean brine, and these tender creatures that cling to the hollows of rocks, or perambulate the ooze and sand in moist twilight, are continually having brought down to them myriads of entangled air bubbles, which the agitations of the surface entrap, and in a tank the specimens are never so thoroughly hearty and beautiful as when the water is frequently agitated.

Stock your tank and leave all quiet. In a few days some of the Actineæ will shut up shop. Some of the plants will drop a few fronds, which collecting at the bottom form the first layer of black decomposing matter. Still leave it alone, and others will close in like manner, and as the animals relapse into a passive immobile and uninteresting condition, there will be a still larger collection of vegetable refuse, exuviæ of Actineæ, and other objectionable substances, and a few days more will herald the beginning of death, and very soon all will be over with your pretty creatures.

But vary the experiment, and you get a key to the whole routine of management. When the vessel first begins to look shabby, hang a filter over it; then take a small jug, dip it full, and pour it back a few times, with a good bold dash, so as to stir up all the filth from the bottom, and while the water is in a cloudy state fill the filter, and as fast as it gets empty stir up the tank and fill again. Every jugful you dip after having first dashed one back to stir up the muck, will bring with it much of the refuse, which the filter will separate from it, returning it to the tank sparkling and pellucid. The quiet way of just filling a drip glass at the surface, is not a tenth part so effectual as this bold style of operations, as you will find by a comparison of the way in which the Anemones plump themselves up, and put on all their filigree and finery, when a thorough agitation of the water realises those very natural conditions they are accustomed to in their submarine homes. Of course, there is no need to spoil the carpet, and drench the curtains; and as to any disturbance of the arrangements of the vessel (should such happen), it is easily set right; and bear in mind that if the Actineæ are in a healthy state, they grip so firm on their footholds, that no dash upon them will cause them to let go—rather indeed it makes them hold tighter—and presently exhibit all their pretty fingers and heads as bravely as if but just dredged up.

Where a marine tank is used as an ornament to an elegant room, this sort of action must be pursued with a regard to the cleanliness of the apartment; and as a dangling flower-pot, or funnel, adds nothing to the embellishments of a drawing-room, a quiet hour should be chosen early in the morning, to give the whole a filtering, and then the apparatus may be removed for the day. Let those who have been persevering for years, and always with a current of disappointments against them, adopt this plan, and the highest beauties of a marine collection will be easily realised, with none of the annoyances of frequent deaths. In a Warington tank the water may be dashed back on the sloping rockwork, to obviate any disturbance of the plants or the pebbles, but a stirring current does no harm to these—whatever is healthy will stand it; and if the Algæ are getting out of order, the sooner their fronds are loosened and removed the better. Adding fresh water, as the specific-gravity bead indicates increase of density through evaporation, and a regular use of the drip glass on the agitating principle, and there need be no occasion to make even the most minute alteration for six months at least; for even the pebbled shore, which in a fortnight gets as black as ink, and as putrid as sulphurated hydrogen can make it in a vessel left to itself, will continue as bright and beautiful as when first laid down.

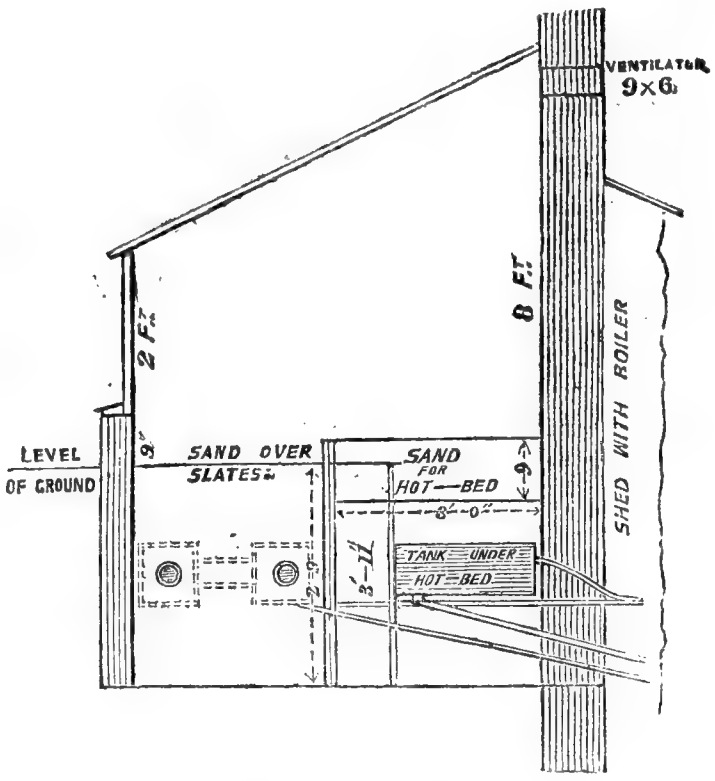
Should a death at any time occur, remove the carcase immediately, and in the same way take out decayed fronds of Algæ, and rub off with a feather the film that now and then collects around the Actineæ.

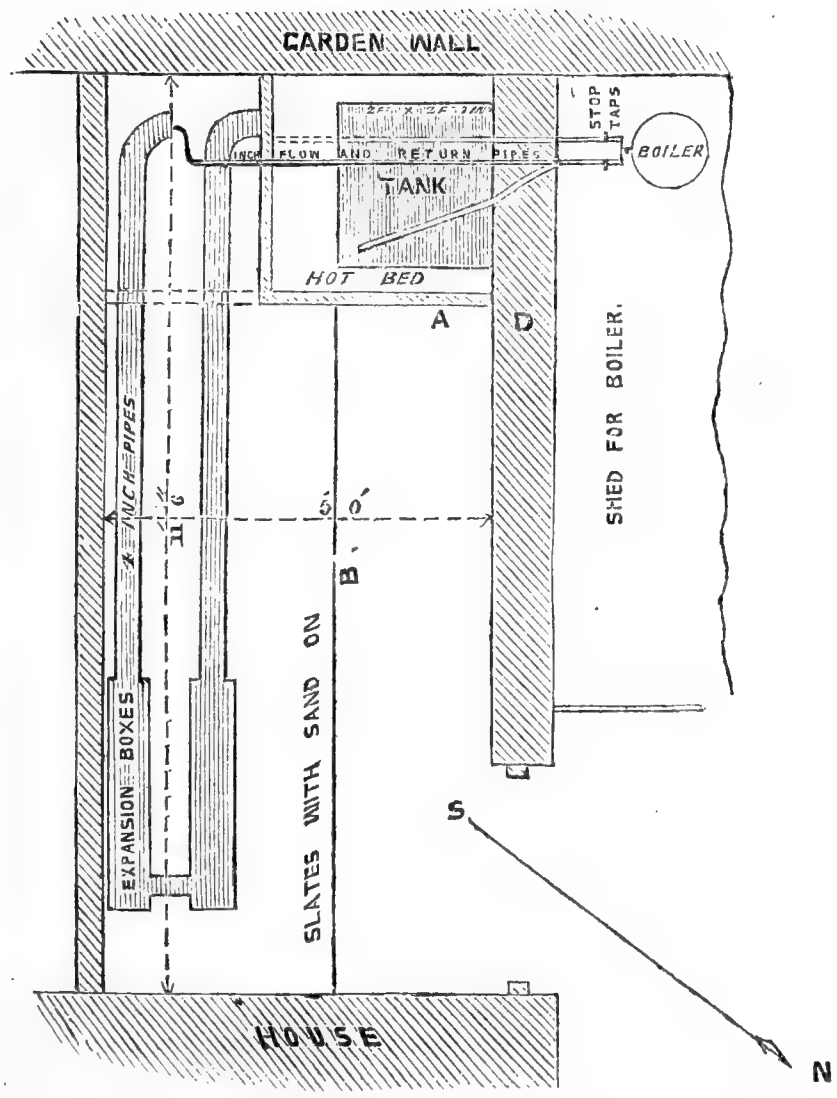
Above all, guard against over-stocking; two or three Anemones to a gallon are as many as should be allowed, but, of course, no definite rule can be laid down, because of their varying sizes, and other circumstances. For the removal of objects in a deep vessel, a dipping-tube will be found useful, but the use of the dipping-tube is apt to lead to the idea that the least possible disturbance should be created; whereas a little disturbance is no harm at all, rather beneficial, as tending to aërate the water, and by bringing into sight the *debris* that is always collecting at the bottom, tend to its removal, by means of the filter. It must be understood, however, that

* The composition of marine salts is as follows:—Common salt 81 parts; Epsom salts 7 parts; chloride of magnesia 10 parts; chloride of potassium 2 parts. Or common salt 3½ ozs.; Epsom salts ¼ oz.; chloride of magnesium 200 grains, troy; chloride of potassium 40 grains, troy. Dissolve in river or spring water and dilute to sp. gr. 1·028.

these remarks apply only to the marine tank; the river tank needs no such disturbance, and in no case aëration; nor does either a marine or fresh water vessel, properly managed, ever require a change of water.—S. H.

HEATING BY HOOD'S BOILER.





A long time ago I promised to give you some details as to the working of one of Hood's boilers, which requires no brick setting, although, in consequence of mine being in an open shed, I have bricked it round, to save the loss of so much heat.

I can fancy I hear you exclaim, the man must be either mad or a fool, to keep such a heat in a hotbed for only striking cuttings in. I have learnt wisdom, and now never have it above 70°, and, usually, about 65°. The shutters that are stated as on sometimes, are half-inch boards, that cover the glass roof, and were got, originally, to protect it from snow slips from the roof of the house. Since this house was adopted, I have materially altered the arrangement of pipes, &c., for I found, one day, that the galvanised iron of the hot-bed-tank was perfectly rotten, and I have been since told it will not stand heat, so now I have continued the wall A across the house as dotted, and got an iron tank three feet, by seven inches, by seven inches, but worked with four inches of water; then the expansion boxes at the end of the four-inch pipes are done away with; the pipes brought to the front of the slates B, and are over each other. The bottom part of the wall A, is set back a little, the top part being carried on an iron bar, so as to form a little chamber, in which three-inch pipes run from the elbows and through the wall D; then inch pipes to the boiler, by which arrangement I think I get more top heat with less fire, but it has been so very windy ever since it was altered, that I have not had a fair chance of trying it.—W. O. D.

THE FLUKE AND THE ALSTON KIDNEY POTATOES.

Observing some remarks on the *Fluke* Potato, in The Cottage Gardener, I beg to say a few words on the little experience I have had. In 1854 Mr. Basherville, a nurseryman, at Bristol, recommended me to try them (his *Ashleaf Kidneys* having been all sold); I did so; and the *Flukes* were planted among three other sorts, which were terribly attacked by "the disease." The *Flukes escaped entirely*, but the haulms were very short and small, contrary to your correspondent's description of his; the crop on my small lot was immense, so that the soil (an old garden) must have suited them. I recommended them to one gentleman here, who raises all his own Potatoes; and he is much pleased, and cultivates them every year. Another gentleman, in Worcestershire, planted a great breadth of them, two years ago, upon newly-broken-up soil, but they did not suceeed so well.

There is an excellent Cheltenham Potato, called the *Alston Kidney*, which I strongly recommend to Potato growers, who have not got them; they are cultivated to an immense extent in this neighbourhood, they bear exceedingly well, and are the best in this vicinity; they keep well, and last (like the *Fluke*) for eight or ten months in excellent order. An order sent to Messrs. Jessop, nurserymen, I am sure would be attended to. A change of soil is very desirable, at all times, to Potatoes: and, I firmly believe, the neglect of this is one of the great causes of disease and sterility.—H. W. Newman, *Cheltenham*.

PLANTING FOR SHELTER ON THE NORTH COAST.

In The Cottage Gardener (No. 493) you ask for information as to what are the most suitable trees to plant, in an exposed situation, on the sea-coast. Here we are only a short distance from the sea, and subject to most terrific gales, especially at the equinox, sweeping all before them. I find, from close inspection from time to time, that nothing stands so well as the Sycamore for an outside protection; its strong lateral branches enable it to withstand the roughest gales, without swerving to any side. Along with this is the Poplar, which stands well, and makes good protection. Horse Chestnuts and Willow fill up, and endure the breezes without becoming one-sided. Along with these is the common Elm. All these make good protection here. Lime, Beech, Ash, Oak, all become one-sided and unsightly, excepting those well sheltered behind other trees. None of the Pine tribe grow well here. A single *Cedrus deodara* is all we have on the place, and this annually loses its leader, resembling a Gorse bush more than anything else. I think your correspondent will find no shrubs do so well as the *Rhododendron* and *Aucuba*, with the Laurestinus; the latter luxuriates here. None of the Laurels do well, excepting the *Bay;* which, when planted in rather sheltered spots, grows admirably. Evergreen Oaks, and such like, become quite blanched under the influence of the sea-breezes, loaded, as they are, with saline matter.—J. Edlington, *Seacombe, Cheshire*.

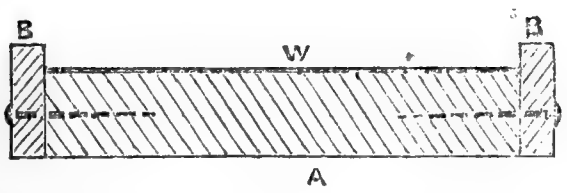
I here hand a few remarks on trees suitable for "Shelter on the North Coast." Perhaps the common *Sea Buckthorn* is one of the best: it grows close to the sea in some parts of Scotland, exposed to the north-east winds from the German Ocean.

But as that hardy shrub, or tree, is but little cultivated, there may be some difficulty of getting it at the public nurseries. The *Pinus maritimus*, or Sea Pine, has been planted with great success on the sea-coasts, both in this country and France; in the latter, on dry sands, which were prevented from blowing about by being mixed with Thorns or brushwood, kept down by stakes, until the roots of the trees got hold. By that means, great tracks of waste, or barren sands, have been covered with thriving trees. Mr. Grigor, in his interesting book on the "Trees of Norfolk," when speaking of Filbrigg Park, the seat of W. H. Windham, Esq., mentions that "there are here likewise some Silver Firs, of lofty, daring growth, the more extraordinary when we consider their proximity to the ocean." I think that Benney Wood, near Dunbar, is, or was, chiefly of Scotch Firs, close to the sea. The Birch and Mountain Ash have been named for such places; and I think that these two were amongst some trees which I saw the season they were planted, some years back, on Inchkieth, in Firth of Forth, along with Scotch Firs and Junipers. I need hardly observe, that trees take more harm from salt spray than from the severest breezes. Therefore, if the coast be high, the damage may be less.—J. Wighton.

NATURE PRINTING.

Mr. Blank is a gardener who has never given any attention to drawing, but would very much like to be able to transfer the impressions of leaves and flowers to paper. He has heard of the Photographic (foe-to-graphic) art, and thinks it good for those who can afford it; but how can he, B., do anything in that line, with a family of five children, and a cottage containing but four rooms. Besides, what would Mrs. B. say to acid bottles, and poison-labelled phials on the shelves of the kitchen cupboard. This paper, then, is intended to cheer up our friend B.; to show him how, at an outlay of half a crown, he can accomplish the desired object, and that without poisons or any chemical messes whatsoever.

Take a piece of plained one-inch deal board eight inches long, and six wide. We will call this A. Also, two strips of the same wood eight inches long, one inch and a quarter broad, and a quarter of an inch thick, B B. Nail the strips B B edgewise along A. A vertical section is shown in the cut.



Then purchase a good skin of washleather, W, and with it cover the upper surface of the board, between the projecting edges. At a toyshop obtain a small India-rubber collapsible ball. Get your linendraper to let you have a six-inch length off one of his old wooden rollers, used for silks. Cover this smoothly with the remaining leather. Then buy a round tin box at the ironmongers, and in it place two pennyworth of printer's ink. Your apparatus is complete; how much have you spent?

	s.	d.
Wood . . .	0	7
W. leather . . .	0	9
Ball	0	4
Roller	0	4
Box of printing ink . .	0	3
	2	3

To produce an impression, proceed as follows:—Place the leaf to be copied on a clean card, veined side upwards. Spread a botch of printing ink on a piece of smooth slate, and dab it with the India-rubber ball till the surface of the latter farthest from the hand is evenly charged. Then, by means of the ball, apply an equal surface of ink to the veinings and edges of the leaf; and arrange it, prepared side downwards, on a piece of dampish paper lying on the printing board. Cover with a sheet of blotting paper, and press the roller backwards and forwards over the top. An exact representation will be the result; the same specimen—if carefully handled—being available for a dozen impressions. All the veinings and stalks should come out with perfect distinctness. The resemblance to the original is rendered still more striking by a transparent wash of green water-colour paint applied over the dry printing ink. The process is a remarkably quick and easy one; and some specimens are herewith forwarded to the Editor, that he may give us his opinion of these nature prints.—E. A. Copland.

[Very good.—Ed.]

HARDY PLANTS FLOWERING IN FEBRUARY AT KEW.

Ranunculaceæ. — Helleborus dumetorum, Eranthis hyemalis.
Caprifoliaceæ.—Viburnum tinus.
Pomaceæ.—Cydonia Japonica.
Garryaceæ.—Garrya eliptica.
Melanthaceæ.—Bulbocodium vernum.
Asphodeleæ.—Scilla sibirica.
Iridaceæ.—Crocus pusilla, C. suaveolens.

SWARMING AND REMOVING THE PARENT STOCK.

Mr. Newman's verdict tallies exactly with my own experience, namely, that "*weak* hives should not be dealt with in this manner," and for the reason alleged; while "on the contrary a very populous hive, which throws off a fine swarm, is," by being moved to another stand (I think not *necessarily* distant), "prevented effectually from weakening itself by too much swarming, to recover its numbers in time to fill a hive with honey."

To expect bees never to fail, even when treated after the most perfect system, were unreasonable. Exceptional cases occur to every rule. Nevertheless, I can boldly state my conviction, that this mode of treatment will be found to answer, in the long run, better than any other; that is to say, I would back an apiary of ten hives, treated carefully after this fashion, against an apiary of twelve or more hives, managed on any other principle.

Mr. Ferguson's experience as to the prevalence of drones in swarms so treated, surprises me, it being directly the reverse of my own. I am bound to say, however, that I have had greater experience of early, than of later swarms; and it is plain, that whether drones remain in the parent stock, or go off with the swarm, depends entirely upon the condition of the stock at the time the swarm issues. If it issues early in May, there will be comparatively but few drones with the swarm; but if late in June, then nearly all the drones of the season will necessarily accompany it, as they will all have been out in the sun, and so are accustomed to the old site. My object always being to get early swarms, I usually force them to issue artificially by driving, when not more than one-third or one-half of the drones are hatched or full grown.—B. and W.

P. S.—It occurs to me to ask, what disadvantage has been found to attend the prevalence of drones with the swarm? May not this rather be considered an advantage? The drones must live somewhere; is it not preferable, as a general rule, that they should go off with the swarm, *i.e.*, with the strong and active, than remain in the old hive, with the comparatively weak? For, in the latter case, they will consume the honey, where there is to be found at this season usually but a small quantity of it, and but few bees to add to the stores. And if there be no honey at all at first, with the swarm, they very soon have an abundance.—B. & W.

PRODUCE OF HONEY.

It has often occurred to me, that it would be a matter of interest to bee-keepers generally, if they would communicate to each other, through the medium of your pages, any particulars respecting the take of honey, either in their own apiary, or those of their immediate locality, in order that something

like a fair notion may be arrived at of the goodness, or badness, of each honey season, as it comes round; to say nothing of the advantages which might incidentally arise from the collection of such information, as regards a comparison of the different systems adopted by the various contributors; and, with a view to elicit such communications from your numerous readers, I send you a few notes from my own apiary, having reference to the honey harvest of the past year.

I should premise, that my situation cannot be regarded as a very advantageous one for bees, lying, as it does, on the summit of the chalk range between Dover and Canterbury; and partaking (as the name of the village implies) too much of the *Wold*—an open and exposed track of country—to be favourable for the operations of our little favourites; yet even here, in good seasons (such as I consider the last to have been), a fair share of profit is to be obtained in return for a careful, or scientific management. With these few introductory remarks, let the following facts speak for themselves.

Stock No. 1.—In a set of Nutt's Collateral Boxes, placed in study window (looking nearly due west):—

Taken June 13th, in bellglass, on top of centre box .	6¾ lbs.
„ August 3rd, in one side box	23 „
Total . .	29¾ lbs.

Stock No. 2.—Set of Nutt's Collateral Boxes, placed as above:—

Taken June 13th, in bellglass, on top of centre box	4½ lbs.
„ *August 4th, in one side box	14 „
Total . .	18½ lbs.

Stock No. 3.—In Golding's Grecian Hive, placed in small bee house in garden:—

In bellglasses and boxes, taken from June 19th to August 8th	27 lbs.

Stock No. 4.—In Golding's Grecian Hive, placed as before:—

Taken from June 11th to August 8th	29¾ lbs.

To these facts I will only add (through fear of occupying too much of your space), that although the summer of 1857 was a favourable one for honey gathering in this district generally, yet it was not (in this parish) a good one for *swarming;* some of the cottagers, therefore, whose success depends mainly upon this, met with sore disappointment.—Sibert-on-the-Wold.

LETTING BEES FLY, AND PLACING SWARMS IN THE STOCKS PLACES.

As the weather on "St. David's Day" accorded well with the old saying, that "March began the right end first," we may observe that bee-keepers, who followed another old adage, "On St. Matthias's Day let your bees fly away," should keep in mind, that warmth and abundance of food are the grand requisites, especially at this season, to enable the insects to gain strength, after their winter's confinement; without both, their increase must be slow, and, consequently, swarming late.

Connected with the last, we lately observed some discussion on "placing swarms in the stocks places," in order to entice the bees, that were from home, to join the swarms instead of the parent hives. Those, however, who are acquainted with the *rationale* of swarming, know full well, that no good can result by increasing the numbers in the swarms, at the expense or risk of weakening the parent colonies. Indeed, the proneness of bees to have their own way, is, perhaps, the greatest obstacle to the depriving system. Still, it only accords with their instinct, which is the same as when adapted to a warm climate. However, those who advocate the plan seem to have two objects in view; one to get stronger first swarms, the other to prevent the stocks being weakened by second or after ones. But, as we have remarked, the first can only be done at a risk of drawing off too many bees from the stocks, more so, of course, than if let alone; and even then, as we have already said, that often too much for the health of the old colonies. For without sufficient strength, how can the brood be reared, and store collected, besides extra honey expected during the latter part of the season? And, with regard to more bees in the first swarms preventing second ones, we may observe, that the rule of after swarms, is not so much governed by the numbers of bees, as the rivalry of the young queens, who often leave with only a handful of bees. Therefore, in this case, the remedy proposed is, in our opinion, no more practicable, than attempts to prevent swarming altogether.—J. Wighton.

* On the 4th February, 1858, the *centre* of these two sets of Nutt's Boxes weighed, net contents, 30lbs. and 26½lbs.

QUERIES AND ANSWERS.

FUCHSIAS FOR BEDDING—TREATMENT OF SCILLAS, CROCUSES AND GLADIOLUSES—TRITOMA UVARIA.

"I have a few Fuchsias of the best kinds, and scarlet Geraniums, in a cold frame, which I intend to bed out in summer. They have been drawn a good deal in their growth, and have long straggling shoots. Should I *prune* them *now?* I bought a few bulbs of Scillas (*Sibirica* and *amœna*), in autumn, which I planted in a light sandy soil, but, on examining them a few days ago, I found that many of them had rotted. Are they hardy enough to stand the winter? Are Crocus bulbs of the better kinds improved by being lifted and dried *every* season, when the leaves decay? I let mine stay in the ground untouched for many years, and I find they are degenerating.

"I think many of your amateur readers would thank you, if you would give a list of the best Gladioluses (*Gandavensis hybrids*), with their colour and cultivation.

"I beg to recommend to your readers a beautiful plant, which I do not remember to have seen mentioned in your paper, *Tritoma uvaria;* it is quite hardy."—An Amateur.

["Drawn" Fuchsias will never do to bed out, or border out either. Cut them down at once. Drawn scarlet Geraniums will look bad at first planting out, but if you are short of them, plant them on their sides, and let the long shoots cover the ground. They will look very well ultimately.

Those Scillas were badly managed before you had them. No bulbs keep better, and none are more hardy. The customary way is to take up Crocuses, and dry them every third year; but, we believe, the new large kinds ought to be taken up every year, before the leaves are quite dead, and then to have a month in the soil, before they are dried off and cleaned.

Gladiolus. Some of our amateur readers have thanked us already, for the very list you ask for. We gave it in our last volume, in the report of the Crystal Palace. The best hybrid Gladioluses in Europe are in that list, most undoubtedly, and we shall add to it as fast as they come over from the French Emperor, who has the best collection of them in the world. His gardener, M. Suchet, is the luckiest fellow on the earth with this tribe, the *Natalensis* breed, not the *gandavensis*, for there is no such breed. There are only two breeds of Gladioluses yet. That between *cardinalis* and others, of the old Cape colony. That breed requires to be planted or potted in October. The newer breed is derived from *Gladiolus Natalensis*, or *psittacinus* crossed, with superior seedlings from *cardinalis* and *blandus*. *Gladiolus gandavensis* was among the best seedlings of this race—not the race itself. The end of February is the right time to plant or pot *Gladiolus Natalensis*, and the new race from it; and the best way to manage the French breed of *Natalensis* is to pot them at the same time as the parent, to keep them in a cold frame till the end of April, and then to plant them out in balls entire, and when the leaf is nearly full grown, to allow them large quantities of water, and not to take them up till the very end of October. The soil ought to be two feet deep for them, and to be as soft and mellow and rich as for Hyacinths.]

CUTTINGS IN SAND AND WATER.

"On recommending 'Mr. Kidd's plan of cuttings,' to some young friends of mine, I was immediately met by the questions, 'Are they to be allowed to become hard and *caked*, or is the sand to be kept moist; as, of course, it will dry up in a kitchen window?' And, 'Are they to be placed in the sun or the shade, as our kitchen looks to the south?' To neither of these questions was I able to give an answer, without your assistance."—Jane.

[If you give your young friends a copy of the present number of The Cottage Gardener, and tell them that Mr. Beaton wrote on purpose for them, they will, probably, "meet you" again with a string of questions, "to know all about it." Pray, therefore, put a good face on it, and write over and over again, till your young friends can strike anything. You see that the breakfast-cup saucer, and the flower-pot saucer, or the finger-glass, or whatever the "pot" for the cuttings may be, is to be half filled with sand, and half with water, or rather say the water to be thick enough with sand to hold up the cuttings. Cut flowers will keep longer that way than in plain water. Cuttings are the same thing, but without flowers. Some kinds will stand the sun, and some will not. Just let them be watched like babies, and they will soon tell what they require, and what is best for them. The great pleasure, about babies and cuttings, is to find out for oneself so many little things, that nobody without babies or cuttings would ever think of. A Duke's gardener wrote to us to-day, and among other things he says that he always strikes his Verbenas as Mr. Kidd says; so nobody need doubt the value of the discovery, or that the practice is only fit for common people.]

MANAGEMENT OF ROSES IN WINTER.

"Last autumn I lifted from the Rose beds about 100 Roses, on their own roots, of all sorts: potted them, and plunged them amongst sawdust, in a cold pit, for the winter. I *then shortened* them a little. They are now pushing vigourously, and I should like you to inform me when I ought to prune them back, previously to planting them out this season. In our late climate here, West Lothian, I could not risk them out before the 1st of May. To keep them hardy, I have given air through the whole winter, day and night, and had the glass off on all favourable occasions.

"How would it answer to plant them out as they are now, and prune them *after* they have taken hold of the ground?

"P. S.—Is *Elise Sauvage*, Tea, so very difficult to manage as the Rose catalogues say, even under glass? I can manage Tea *Vicomtesse de Cazes*, and they call it also very tender." —Paul Ricaut.

[You have managed well, but you have taken needless trouble. All your rooted cuttings of Roses, except the Tea kinds, would have done just as well, if you had planted them for good in October, although you live in Lothian. They want no more pruning till the end of next October, but put something good over the surface, by way of mulching, and you will gain a year by it. *Elise Sauvage*, being a delicate grower while young, takes more time to make a good specimen than many of them, but once on her legs, *Elise Sauvage* is a beauty, and gives no trouble or uneasiness; grows well, looks well, and never deceives.]

CUTTINGS IN SAND AND WATER—EUPHORBIA JACQUINIFLORA PRUNING.

"In reference to Mr. Kidd's plan of striking cuttings, mentioned in your journal, I should be glad to know if they are to be *kept* in a state of puddle; and, if so, should the leaves be sprinkled in watering them. I have in my hothouse some young plants of *Euphorbia jacquiniflora* and *corallodendron*, which during the winter have become dead at the points. I want to know the proper time for pruning them." —D. W.

[Cuttings, on Mr. Kidd's plan, may be likened to a few cut flowers, put into a wide-mouthed glass full of water. They would all fall to the side, but add as much sand to the water as would keep up the cut flowers in any position required, and the glass is fit for cuttings. Surely you would not think of watering such cuttings at all; but you must *water the glass*, or saucer, occasionally, to keep it up to the first mark. The *Euphorbia jacquiniflora* should be pruned before the end of March. Prune the young wood of last year very close, only two or three eyes being left, and let the roots be rather dry at the time. We do not know *Euphorbia corallodendron*, and cannot tell how or when to prune it. Do you not mistake your plant?]

SUBSTITUTE FOR TURFY LOAM—DR. LINDLEY'S MISTAKES.

"We are much indebted to Mr. Errington for his excellent article in No. 492, on 'surface dressing,' but there is one great difficulty not to be lost sight of. He says, turfy loam is to be used for a top dressing. There are hundreds and thousands of amateurs who cannot procure such a thing. I would give my ears for a load of it; yet every writer, whether upon potting Roses, or planting fruit trees, or mulching, or scores of other things, says, use 'turfy loam,' 'turfy loam,' when we cannot get a scrap of it. Pray tell us the best substitute for it.

"I am very glad to see a correspondent writes about *Spiræa callosa*. I can confirm him in all he says. Why does an eminent man, like Dr. Lindley, try to deceive the public? What is become of *Delphinium cardinalis*, of which we had such a *flaming* description from his pen? I asked a first-rate nurseryman his opinion of it. Here I transcribe his words—'I believe it to be the greatest rubbish that was ever palmed upon the public.' Are those words true? for I did not buy the plant, with such a doubtful recommendation.

"I hope Mr. Beaton will follow up his article about the size of catalogues. I have had mine bound for a long time, and find the same difficulty as he does. If printed in 8vo. size, a large catalogue would go by post for a penny. Everybody who writes to a nurseryman, for a catalogue, ought to enclose a penny stamp. It is always my practice, and only fair."—A. R.

[The next best substitute for turfy loam, like the next best substitute for gold and silver, admits of so many interpretations, that we decline the question, and put another. Why do the gardening people, of this country, invariably ask for the best of everything? The top spit of the piece of ground on which you grew your Celery, or Cauliflower, or Onions, last year, with one-fifth or one-sixth part of the dead rubbish from a dunghill, will make as good a surface mulching and dressing as any honest man or woman need wish for. The same stuff, with rather more from the very bottom of the heap, will grow every Geranium, which is worth growing in England; and that stuff, too, with more or less of sand, will grow all the bedding plants. You must not be so hard on the Doctor. You may depend upon it, he never deceives intentionally, he believes what he says; but, like almost all scientific botanists, he finds it difficult to understand why a weed should not be prized, and be as good as the "best" plant in the garden. More doctors than one were deceived in *Delphinium cardinalis*, and Mr. Veitch, who raised it, ought to have given a hint to them.

The nursery catalogues promise to be all you wish in a year or two. They are the next "best" portion of our gardening literature, and should not be lost to the country for want of a little alteration in their shapes. Those that are not customers ought to pay a fair price for the use of a catalogue, as well as postage. We look upon every catalogue which is sent to us, as a present, for which we feel grateful.]

DEATH OF BEES IN A WELL-STORED HIVE.

"To-day (March 15) being the first mild day we have had for some time past, I determined to give some food to my bees; on examining the hives, I found one with all the bees (a handful only) dead, though at the same time it had 25 lbs. of honey and comb in it. The bees had evidently been dead a long time, since a small piece of barley sugar, which I had given them some months ago, I found not entirely consumed. I cannot discover that there has been any disease among my bees; certainly, dysentery had not attacked the hive; the floor-board was clean and sweet, and the hive (a common straw one) appeared quite good. The comb is light coloured, and in good condition. Can the honey have been collected, in part, from any poisonous flower? Or, what can it be that has caused the destruction of the hive?"—C. P. C.

[Your stock undoubtedly lost its queen—most likely in the autumn—too late to rear a successor. In such event, there would be a gradual dispersion of the family, and subsequent death of the few remaining in the hive. You must console yourself with the possession of a very fair store of honey,

which now falls to your lot, and begin again with an early swarm in the season.]

TO CORRESPONDENTS.

Petunias and Chrysanthemums (*Kate*).—Four good Petunias to train on trellis, are *Countess Ellesmere; Magna coccinea*, the large one at Crystal Palace; *Charles Turner;* and *Prince Albert.* Seven good *Petunias* for mixed border:—*Little Nell; Shrubland Rose; Mrs. Cutbush*, a fine variegated with white flowers; *Purpurea alba* (Turner's); *Major Domo* (Turner's); *Brilliant;* and *La Reine.* Mixed border Petunias, being fancy flowers, a lady should be no more influenced about them than about the choice of a husband, at the hand of a public or private friend. *Kate* will, therefore, please to try these kinds for better or worse. Of *Chrysanthemums* for a trellis, *Queen of England* makes a fine wall plant, and so do *Auguste Mie; Lucidum, Plutus, L'Emir,* and *Hermione; Dupont de l'Eure, Themis, Pilot, Nonpareil, Vesta,* and many more. Buy them now, and plant them out about the beginning of May.

Yellow Calceolaria Edging (*A. B.*).—*Calceolaria integrifolia* is the dwarfest yellow kind they use at the Crystal Palace. Last autumn or early spring cuttings, of this kind, still make the best edging plant we have in this breed.

Various (*A Constant Subscriber*).—The half hardy bulb called *Chlidanthus fragrans*, flowers best in the open ground in a light sandy border, without peat; but it must be taken up for the winter, and treated exactly like Tigridias, that is, all the roots to be taken up with the bulbs, and both roots and bulbs to be kept in damp mould till next March, allowing the leaves to die of themselves. About the end of March, give Tigridia culture, that is, clear the bulbs of their old roots and suckers, and pot them, or not, according to convenience—those potted and brought forward gently, will flower sooner than those planted out for good, about the end of April. The only trouble with *Chlidanthus fragrans* is to keep down offset bulbs, which retard, or keep the old bulb from flowering about July. It might be named the Peruvian Yellow Narcissus, as *Ismene Amancæs* is often called Peruvian Daffodil; such names give a good idea to strangers, of what the flowers are like. The treatment for the Bauera, Hypocalyptus, and Leptospermum is, as nearly as possible, the same as for a good healthy plant of the broad-leaved Myrtle. There are about 500 of such plants which should never be treated otherwise than like this kind of Myrtle. We do not know the *Tropæolum coccineum*, and *Calandrinia umbellata*, though very beautiful, will not do for a bed or edging, nor will thrive in a bed with such bedfellows as you name. It is a patch plant on a nice sunny border, and will not pay any other way that we know of. *Leptosiphon aureus*, we do not know. Is it not a trick name? *L. luteus* is another of the delicate patch plants; but "time, skill, and patience" make beds and edgings of it. Time, skill, and patience, however, can no more be taught by books than the art of shooting on the wing. The little *Nemesia* makes a nice edging, or small bed. Give up all idea of bedding these new Tropæolums till we are better acquainted with them, and can put you on the right track—there are plenty of ways of using them without beds, depend upon it; all Tropæolums require a great deal more time and care than most people can give them.

Mowing Machines (*A Friend*).—They all do their work well. Write to any of the advertisers in our columns. Try the Stewarton Hives. We have them and like them. Buy our "Bee-keeping for the Many."

Marine Aquariums (*A Fisherman*).—You will see in our columns to-day, directions such as you ask for.

Araucaria imbricata Seed.—*A Subscriber* wishes to know where he can obtain some.

Heating by Gas (*Enquirer*).—A copper or iron tube is carefully bent into the shape of an unpointed cone, the upper row closing against the effluvium-pipe, and passing off through the external iron cylinder, right or left as the case may be. Should you find difficulty in stopping the crevices between the rings of the coil, it will be better to envelope it in a metal extinguisher, or foul air will enter the apartment. The temperature is regulated by the heighth of the jets, the ring being connected with a tap. Not knowing the character of walls or ceiling of your building, or the size of the ring perforations, I am unable to answer your last query. *Probably* 55° Fahr.—E. A. Copland.

Names of Plants (*L. M. N.*).—Your Fern is the *Asplenium ebeneum*, a beautiful greenhouse Fern, a native of the Cape of Good Hope, Mexico, and North America. (*W. Forbes*).—1. Is *Asplenium adiantum-nigrum.* 3. Probably *Bunium flexuosum*, but this and the other specimens are too small for us to recognise them with certainty. 5. Is a leaf of *Geranium Robertianum.* It takes far more time than we can spare to examine such imperfect specimens.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

April 7th and 8th. Newcastle and Northumberland. *Sec.*, Mr. W. Trotter, South Acomb, near Newcastle.

June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.

June 28th, 29th, and 30th, and July 1. Sheffield. *Sec.*, Wm. Henry Dawson, Sheffield.

August 30th and 31st, and September 1st. North Hants. *Sec.*, Mr. T. Moore, Fareham, Hants.

POULTRY AND THE ROYAL AGRICULTURAL SOCIETY.

Oh! Mr. Editor, what has poultry done, that it should be excluded from the Royal Agricultural prize-list, after this year? Will it be forgiven? I am afraid not; for it is Locke, I think, who says, "Before you do a man a service, take off your hat, and humbly beg his pardon; there is no offence so deadly as an obligation." We had heard of difficulties with the implement makers and Judges; they were openly mentioned at Salisbury; but the poor poultry, what has it done? Is it a scapegoat? Is it the old question of a parcel of cocks and hens? Is it because poultry was not shown in the early days of the Society? Was it pooh pooh'd?

Do you recollect the Spanish king, who, when wanting a signal blessing, had a variety of plans, such as walking with peas in his shoes, wearing a hair shirt, &c., proposed, but declined all. Something, however, must be done, and it was proposed to burn a Jew, as a propitatory sacrifice.

"Says the King—'That 'll do.
Pooh! Pooh! Burn a Jew!
Burn half a score Jews—burn a dozen—burn two!
Your Grace, it's a match;
Burn all you can catch—
Men, women, and children. Pooh! Pooh! great and small;
Old clothes, slippers, sealing-wax! Pooh! burn them all!'"

Out with them! Out with them! birds, baskets, exhibitors and all. Hurrah, no more poultry! The good old times are coming back, and our Show-yard will be quiet, and less crowded. 'Tis settled.

"Hurrah! That 'll do;
And Sec., Sir, do you
Write, of well-worded letters, a dozen—write two,
To tell folks that we,
The R. A. S. E.,
To all our subscribers, wish health and send greeting;
But say, we wo'n't have cocks and hens at our Meeting."

—R. R.

WORRALL *v.* HEWITT.

I see, from last week's Cottage Gardener, that Mr. W. C. Worrall, in a reply to "Golden Mooney," makes a statement, by which he evidently hoped to mislead your general readers; no doubt flattering himself it would, at the same time, prove equally conducive to the furtherance of his own purposes. Such disreputable practices, however, are ill-calculated to add either to his own personal repute and respectability, or to that of those gentlemen on whose behalf he thus throws down the gauntlet of general contention. Neither Mr. Worrall, nor any other individual, acts honestly, who purposely conceals the most important part of an incident, to the end that such portions only as he chooses to reveal may be necessarily misunderstood. On the subject of superiority of individual specimens of Golden Hamburghs I will say nothing, but leave the matter entirely to those amateurs who are more intimately conversant than myself with their peculiarities and general requirements. But Mr. Worrall, after expressing the "lively interest" he takes in the Preston Poultry Show, directly attempts to blast its reputation, by saying "it has not been of late properly judged; that the Committee, however, are not to blame, as they made the most urgent entreaties to the Rev. R. Pulleine and Mr. Baily to officiate for them, but engagements prevented their compliance."

Now, at the time named, Mr. Worrall was himself made personally acquainted with the fact, that *long before* any application was made to either the Rev. Mr. Pulleine or Mr. Baily, the Preston Committee had, by a "unanimous resolution," solicited the services of Mr. Hewitt as one of the Judges, and had also actually appointed that gentleman. This plain development proves how singularly slight a regard Mr. Worrall has to personal verity, even if considered altogether irrespective of the conviction substantiated against him last year; whilst undoubtedly the Preston Show is but very slightly indebted for the lively interest he takes in its welfare, or the yet more questionable efforts he makes to increase its success. I will not stoop to follow Mr. Worrall in the unseemly remarks he makes as to the comparative efficiency of the Poultry Judges: all are well known, and amateurs individually must, and will, in all such cases, form their own opinions; but truth should be adhered to by Mr. Worrall, as by any other individual who makes even the profession of common respectability.—Prestonion.

GOLDEN MOONIES.

Having been from home for some time, I did not see Mr. W. C. Worrall's production, till too late for immediate reply.

Few, I think, can call his actions gentlemanly. I dare say many remember the falsity of his assertions last year; and, probably, the medicine then prescribed did not suit the wound. As to the birds I exhibited at Preston, four out of the six were the Birmingham Plate birds, so that any amateur, who saw them, may judge of their quality.

Mr. Worrall has, certainly, no right to endeavour to create disrepute for my stock, in the public newspapers.

I can say, positively, that neither of my birds had either a black breast, or crooked comb; the one's breast is so heavily mooned that it looks dark. If I had come the Lancashire touch over him, and cut part of the feathers out, perhaps he would have pleased Mr. Worrall better.

Mr. Worrall speaks of breeding hosts of Golden Mooney chickens, if so, he cannot but admit that he breeds *hosts* that are worthless, or he would not have had to purchase the birds he exhibited at the last Birmingham Show. They were bred at Hundsworth, and sold to Mr. W. a very short time before the Birmingham Exhibition took place. This, I think, does not speak very highly of his wonderful stock of Moonies, as breeders.—J. B. Chune, *Green Bank, Coalbrookdale.*

LIVERPOOL POULTRY SHOW.

Being one of four servants at the Liverpool Exhibition of Poultry, I can safely say, William Gilliver, Mr. Moss's poultry man, had no more advantage than any other gentleman's servant. Neither Gilliver, nor any other servant, had any access to the Exhibition until after five o'clock in the evening, and the Judges had both retired. Neither did any servant attempt to intrude, although there was an attempt by one of a higher grade.—John Douglas, *Wolseley Aviaries.*

PURCHASING EGGS.

Your correspondent "R. B." does good service to poultry amateurs, by bringing forward the subject of purchased eggs, at a seasonable time. I cannot, however, believe that his success, or rather failure, represents an average case. I have bought and sold eggs, repeatedly, in the last four years; and, with your permission, I will state the result, for the information of your readers. I do not write from recollection; I keep a book, in which all such matters are entered, and I copy from that.

My career commenced in 1854, by purchasing a dozen of eggs for four guineas, which travelled safe from Lancashire, beyond London. I had nine chickens, and reared seven; one proved a first-class bird, two were fair average birds, and four were worthless. I remember that I was very indignant; the eggs had been represented to me as from Birmingham Silver-cup birds; I thought they could not have been from such parents; I now believe that they were; and, moreover, that my success was as good as is usual with Spanish fowls. A very successful breeder of this variety once told me, that he had reared upwards of 200 chickens, and had, he thought, about a dozen up to the mark for first-rate Exhibitions, but certainly not more than twelve.

In 1854 I also purchased, for three guineas each, a pair of birds, of another variety; these, like the Spanish, were from the most noted breeders of the day. I set forty-eight eggs from the pullet—herself a most beautiful bird; her companion (the cock) was also pure in pedigree, and good altogether; yet, from these forty-eight eggs, I had but eight (out of forty) chickens which equalled their parents; three of these eight surpassed the old birds, and were put with a cock (bought of another successful breeder, as one of his picked birds) for my breeding stock of 1855.

I reared from these selected parents more than a hundred chickens. I exhibited once two pens; I got a first prize with one pen, and the other was commended. But after these eight chickens were removed, there were not half-a-dozen more of the whole lot fit to breed from; so that twelve, out of a hundred, was my proportion of really superior birds. There were many other pretty and useful fowls, but no more which did me any good, either as a breeder or exhibitor.

In the next year (1856) I sold several dozen eggs, some of which travelled 500 miles, by rail and steamer; only one box was an entire failure. In several cases, *all* the eggs were productive; in others, different numbers. The average number of chickens was about seven to the dozen. As to the quality of the produce, I cannot speak so positively; I know that some of the purchaser's names appeared in the prize-lists; in two instances, I was told that single cock birds, which took prizes, were from my eggs. I do not think any purchaser got an entire pen of prize chickens, from one box of eggs; I should have been astonished if he had. I myself, after four years experience, never got a pen of four, fit to take a first prize, from one brood.

In 1857, I again bought eggs, sold eggs, and reared more than a hundred chickens, from my own stock fowls, the best birds of the previous season. Again I found much the same report from the purchasers of travelled eggs. Taking one with another, about seven to the dozen proved prolific. Some buyers getting nine or eleven chickens; others but five or seven. No one in 1857 failed altogether; still I know that, with every care on the part of buyers and sellers, some broods will fail. I received a box of eggs, all of which proved clear; but I believe the fault lay in the railway treatment, and not in the vendor. Again I had much the same fortune with my home-reared chickens, some broods giving one, some two, and in one case, four first-rate birds. Some other broods were altogether second-rate, without any cause that I could discover; in some broods nearly every chicken proved a cockerel; in others the pullets predominated. Altogether, I am sure that no one can yet guarantee, either uniformity of produce, or universally prolific eggs. I believe that every year, that fowls are bred with the care that is bestowed at present, will increase the proportion of first-rate chickens, out of the number which is hatched. But the careless ages of cross-breeding, and indiscriminate admixture, are still so near to us, that traces of bye-gone taints are continually appearing, even in the most esteemed strains. Another thing is equally certain, that the more carefully birds are separated and bred to their kind, the more liable do they become to lay barren eggs. I have already twice this season, and once last, been disappointed by finding all the eggs of an unusually perfect pullet, unimpregnated. This happened when every circumstance was favourable to the production of a healthy and abundant offspring. I believe that to buy eggs (which, carefully packed in chaff, will travel almost any distance) is the cheapest way of obtaining fresh blood; but purchasers ought to know what they have a right to expect, and so, in the hope I may prevent disappointment, I have jotted down the above veracious history of the chicken experiences of—K.

PUNISHMENT OF FRAUDULENT EXHIBITORS.

Now Poultry Shows are over, for the present at least, you will have room in your columns for much interesting matter. I would urge all amateurs to seize the opportunity, and through you, to enlighten each other, by publishing such parts of their experience as they may suppose will prove instructive, especially to beginners.

But, Sir, do not, I beg, lend your columns to controversy about prizes. Let any dispute about them be laid before the Committee *at once*, and in *writing*.

My principal intention in writing to you now, however, is with a desire to prevent the disgraceful scenes that have taken place, at various Exhibitions, during the past season.

In one place you might have seen Game fowl with painted legs; in another, Hamburghs with painted earlobes; then Polands with crests beautifully white, owing to the black feathers having been extracted; and many other deceptions too numerous to be mentioned. Now, Sir, I know for a fact, that some of my friends will not exhibit, until they feel assured that none but the best birds can win. Surely it is time a remedy was found, and more than that, strictly applied. You, Sir, have suggested one, viz., that anyone detected in such practices should be denounced to all the principal Shows, and thenceforth precluded from exhibiting.

And a very good rule too, if you could only render it effective.

But if a man (I cannot call him a gentleman) had this rule enforced against him, he would certainly no longer show his

birds in his own name, but in that of his wife, son, or perhaps even of his servant. He would still secure the plate, or money prizes, and that, to his dishonest mind, would be quite sufficient. Practically, then, such a rule would prove worthless.

However, I have thought of a much better plan, and one that, if adopted, would effectually deter a man from attempting fraud.

Rule.—Any person, or persons, detected in trimming, painting, or other fraudulent practices, shall be at once disqualified; and shall, moreover, not be allowed to receive any cup, prize, or commendation, in any other class, or for any other birds, to which, otherwise, he might have been entitled.

To this rule honest men will not object, while, I think, you will agree with me, it would make rogues tremble; for a disqualification would no longer be a nominal, but a real loss. Allow me to illustrate my rule by a suppositious example.

Suppose a man to have entered pens of Spanish, Game, and Dorkings; that the feathers near the comb of the Spanish cock had been pulled out. Then, suppose the Judge awards a silver cup to his Game, and a second prize to his Dorkings. When they come to the Spanish, they disqualify him; but his punishment does not rest here. The Judge returns to the Game and Dorking Class, and re-arranges the prizes; then writes on the Game pen, "would have taken silver cup, but for Rule No. —," and on the Dorking pen, a similar statement.

Such, Sir, is my plan, and I do trust that you will advocate it, and that it will become law at all our great Exhibitions.

Permit me to state here, that I have derived great pleasure from The Cottage Gardener's "Poultry Book for the Many." There is one subject, however, which it does not treat—how to keep poultry profitably in confinement.

Now, my birds are never loose, and yet I am never without eggs.

If you would like to lay my plan of keeping and feeding before those amateurs, who have little room, I shall be most happy to give you my experience, which ranges over a good many years.—White Game Cock.

[We shall be much obliged by your offered communication. —Ed.]

HAMBURGH FOWLS IN A CONFINED SPACE.

Since the "Wiltshire Poultry-keeper" has given his opinion so freely on the laying properties of Hamburgh fowls, seemingly so opposed to my communication of the 7th of July last, I think, in justice to myself, I am bound to state my further experience with that most beautiful and profitable variety, the Golden-pencilled.

I have no reason to alter my opinion of their merits; for, since my former communication, I continued to reap as rich a harvest of eggs as ever, until the end of October, when moulting commenced. My old fowls are beginning to lay again, but rather indifferently, in consequence of the unsettled weather. But were they the worst winter layers (which is not the case), I contend they are the most profitable kind any one can keep.

He goes on to say that keeping them in small enclosures is a loss to the owner, and a great cruelty to the fowls. Let us see.

During the past year I sold three pullets for exhibition, one or more of which, within a week, figured in a first-prize pen. The *cruelty* they had been subject to does not seem to be detrimental to their feather, or high condition.

If further proof be required, let me add, that for some time past I compared my egg registry with that of a farmer keeping a third more fowls than myself (Game and different crosses), and I find that I keep a-head generally.

I may be accused of treating my favourites with undue partiality; if so, I may quote the opinion of one of our foremost exhibitors. He says, "If I kept fowls for laying, decidedly I should give preference to Hamburghs *under any circumstances;* and I think the Spangled varieties the hardiest."

I may here give an instance of a Silver-pencilled hen, the owner of which has come forward on reading the above (lament for cash departed, he calls it), to say she commenced laying in January, and continued to do so until the beginning of November last. She moulted quickly, and he expects her to lay again daily. And mark, she is confined to a pen not exceeding three yards long by two wide. The secret (for secret it seems to be) is this:—Make your places of confinement to assimilate as closely as possible to a grass run; provide for their comfort everything they would find on that run, as fresh-cut turf. Cabbage, lettuce, or almost anything of garden refuse, I find makes a good substitute. I have no doubt the complaints of the "Wiltshire Poultry-keeper's" friends arise from the breach of a few simple, though most important, rules, more clearly laid down in the "Poultry Book for the Many" than I can do it. More I cannot say now than *buy it*, do as it directs, and success is certain. If you grudge the trouble, you must not expect success—nor do you deserve it.—E. Sharratt, *Rugeley*.

WHITE BANTAMS.

In reading over the prize-list for the Sheffield Poultry Show of this year, I find that they have entered a class for "Game Bantams," and have put the "any other varieties" into the same class as Whites. Now, I ask, is this just and fair? In most Poultry Shows there have been five classes for Bantams, *i.e.*, Gold-laced, Silver-laced, White, Black, and a class for any other variety. Under the latter class came Game Bantams. Why, then, do they not give classes for Gold-laced, Silver-laced, White, Black, Game, and a class for any other variety?

Among the numerous Poultry Shows coming off, I hope to see this remedied; for why should White Bantams, that have hitherto had a class to themselves, be now classed in the any other variety? They give nine classes to Game fowls, seven to Cochins, nine to Hamburghs; then why should not Bantams have six? for I am certain they are quite as handsome as any other class of poultry. I hope Bantam exhibitors will not allow their favourites to be so ill-used.—J. D.

[Poultry Committees must apportion their prizes according to the usual number of entries. White Bantams are among the fewest entries.—Ed.]

OUR LETTER BOX.

Paralysed Spanish Chicken (*J. Chappells*).—There is probably an oozing of blood from a small vein ruptured on the brain. Quiet, soft food, and plenty of green food, are the only treatment giving a chance of its surviving.

Silver Grey Dorkings.—*Linda* wishes to know, if the variety of Duckwings exhibited at Wellington Show, by Mr. Bromley, as *Silver Greys*, were the same as *Cuckoos*, and whether, if so, eggs are to be disposed of, and at what value?

[Mr. Bromley's hens (at Wellington Poultry Show,) were of a *perfectly clear* grey throughout their plumage, but what is termed "Robin-breasted," especially about the crop, fading again into clear grey about the thighs; there was not the slightest possible approach to "Cuckoo," as generally applied to Dorking colour, nor yet to "spangling" of any kind. Their owner has, to our knowledge, been offered £40, within the last few days, for them, and refused to take that sum. Mr. Bromley being in good circumstances, perhaps, justifies his "hobby;" but we cannot see how they will pay better (£20 a bird). We cannot speak as to "whether eggs are to be disposed of," but an application to Mr. Bromley would determine that point instanter, and we have no doubt would elicit a courteous reply.]

Points in Golden-spangled Polands (*An Amateur*).—Large top-knots, and the less white the pullets have, the better they are. The cock should have a well-spangled breast, wings laced and barred, ample tail, the coverts shaded with a rich orange brown. No comb or gills. The pullets or hens well and accurately spangled all over, not laced, clearly marked wings, topknots shaped like cauliflowers, and close-feathered, straight well-formed backs. No clouded feathers, in which the colours would seem to have blended. Entire absence of splashes of colour. Blue legs.

Cuckoo Dorkings (*H. C. G.*).—The Cuckoo Dorkings are not a distinct breed. They generally come true to feather, but the cocks have a tendency to red feathers on the wings (like a Brassy-winged Game cock), and in the saddle and hackle. In all the attempts to breed Dorkings to a feather, it is necessary to kill or otherwise get rid of those that offend. They will throw back, and there is no pure colour. Apply to Baily, Mount Street, about them.

LONDON MARKETS.—March 22nd.

POULTRY.

Good Poultry, or we should rather say, the best Poultry, becomes scarcer daily. At this time of the year, when the prices appear fabulous to many, it is well to say, we quote only the very best, and they descend by degrees according to quality.

	Each.		Each.
Large Fowls ...	5s. 6d. to 6s. 6d.	Guinea Fowls .	2s. 9d. to 3s. 3d.
Small ditto.....	4 0 ,, 5 0	Turkeys	6 0 ,, 7 6
Chickens.....	3 0 ,, 4 0	Pigeons	0 8 ,, 0 0
Geese	7 0 ,, 7 6	Rabbits	1 4 ,, 1 5
Ducklings	3 6 ,, 4 0	Wild ditto.....	0 9 ,, 0 10

WEEKLY CALENDAR.

Day of Mth	Day of Week.	MARCH 30—APRIL 5, 1858.	Weather near London in 1857. Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. and S.	Moon's Age.	Clock after Sun	Day of Year.
30	Tu	Cytisus racemosus.	29.239—29.144	55—42	S.W.	.04	42 af 5	27 af 6	8 a 6	15	4 34	89
31	W	Cytisus filipes.	29.447—29.187	57—35	S.W.	.02	40 5	29 6	9 23	16	4 16	90
1	Th	Acacia conferta.	29.460—29.279	56—44	S.W.	.02	38 5	30 6	10 39	17	3 57	91
2	F	Good Friday.	29.370—29.113	58—42	S.W.	.14	36 5	32 6	11 53	18	3 39	92
3	S	Acacia Dillwyniæfolia.	29.723—29.495	58—35	S.W.	.02	33 5	34 6	morn.	19	3 21	93
4	Sun	Easter Sunday.	29.758—29.714	54—48	S.E.	.48	31 5	35 6	1 1	20	3 3	94
5	M	Easter Monday.	29.641—29.548	67—49	S.E.	.06	29 5	37 6	1 59	21	2 45	95

Meteorology of the Week.—At Chiswick, from observations during the last thirty-one years, the average highest and lowest temperatures of these days are 55.5° and 35.0°, respectively. The greatest heat, 78°, occurred on the 4th, in 1848; and the lowest cold, 15°, on the 30th, in 1856. During the period 129 days were fine, and on 88 rain fell.

CHRYSANTHEMUM CULTURE—BEGONIAS, TUBEROSES, AND LOBELIAS IN BORDERS.

I made up my mind every autumn, since that of '51, to write about the out-door Chrysanthemums between London and Kingston, both by the rail and omnibus routes; also over Wimbledon Common and Kingston Hill, and what I intended to say each time was this—if the rest of the great approaches to London were as badly planted with Chrysanthemums, either in the borders, or against the low division walls, it was not worth while to go one step out of doors to see the whole of them put together, if that were possible. But, ever since, I had forgotten to write about it at the proper time, until a letter, which came the other day, put me on the scent exactly at the proper time; and now it will not be the fault of The Cottage Gardener if every out-door Chrysanthemum, within twenty miles of London all round, is not taken up and divided, if it is worth dividing, before the end of the next three weeks, or say, at all events, before the 20th of April.

I recollect, as far back as the autumn of 1827, that we had a fair show of Chrysanthemums in the Experimental Garden of the Caledonian Horticultural Society in Edinburgh, against the south wall; it was then my duty to "cover up" these at night, while they were in bloom, every other week, alternately with Mr. Sharp, now gardener to Lord Eglinton, the Lord-Lieutenant of Ireland; Mr. Barnet, who looks better now than he did then, being the head-gardener. The Chrysanthemums at the "Experimental" were talked of that year round Edinburgh as something very much out of the common; one of them, called *Early Blush*, in the way of *Queen of England*, was, indeed, as good on that wall as any flower of the kind that I have met with since.

In the spring of 1828, the question was argued between Mr. Barnet, his two bothy men, and a Mr. Downy, from Ireland, as to the best mode of having the Chrysanthemums treated that season, in order that we might excel ourselves, as it were, the following autumn. Mr. Barnet was then flush with his honours reaped in the Chiswick Garden, and was considered the best authority on Strawberries and Chrysanthemums then in Scotland; Mr. Downy was many years in Ireland among fruits and flowers; Mr. Sharp represented the experience of the "Heart of Mid-Lothian," and of the shires of Fife and Perth, beyond the Forth; and your humble servant represented the Clans north of Dunkeld, the Duke of Athol's. Mr. Barnet, who was strong-headed then, carried the day against all of us put together, and would have his own way—the way he managed them in the Chiswick Gardens—and that "way" happened to be a suggestion by Mr. Loudon, in the "Gardener's Magazine," on the plan pursued at Chiswick, which plan was described in the "Transactions" of the Society by Mr. Munro, their gardener. The upshot of it was, a better show of out-door Chrysanthemums that season than was ever seen previously in Scotland. I have heard, and read, of better shows of them in England, and I had my own fingers in the pie repeatedly; but I honestly confess, that with all our superior kinds, I have not yet seen a better show of planted-out Chrysanthemums in England than that show was in Edinburgh in 1828, and that is the very old plan I am now going to recommend; but first, let me quote what was said by an eye-witness, three years before then, about the Chiswick Chrysanthemums, which "for variety, brilliancy, and luxuriance, presented a display never hitherto equalled in Europe. There are now in the garden about fifty sorts; the whole of these were assembled in one house, and in full bloom on the 20th of November (1825), and *the greater part of the varieties were in equal perfection, closely trained against a south wall.*"

The way those against the wall were treated was to make cuttings three inches long at the beginning of April, and early in May the plants were stopped, and had one shift. They were not stopped again; but, at the end of May, were turned out of the pots against the wall. When long enough for nailing against the wall, they were thinly trained all the season, and when the flower-buds appeared, they were thinned out as carefully as Grapes are thinned now.

Mr. Salter, of the Versailles Nursery, blooms at least 300 kinds of the large Chrysanthemums in the open borders, tied to stakes; so there is no fear but our new kinds are just as hardy, if not more so, as those of 1825. Therefore, those who wish to have enormous blooms, as cut and dressed flowers for exhibition, cannot begin their cuttings too soon after the 1st of April, or even now, if they have room. There ought to be a good mass of roots to each plant, and the plants stopped before the 10th of May; or say by the right time to put in the cuttings for pot culture. The names of all the largest, as well as the best kinds, will be found in my accounts of the Stoke Newington Show, and of Mr. Salter's collection, last autumn; and to make the most of them for cut flowers of enormous size, we shall call the first step. The next move is to make quite certain that all the strength of the roots shall go up to the flower-heads, without let or hindrance. In order to effect that, and to lessen the summer attendance on them, we must have no suckers. Therefore, cut out three or four of the bottom buds from each cutting, along with the leaves, and see that the next lowest eye, or eyes, do not get buried in the pot, or in the border; that rule will be one-half the battle. By stopping the plants at the beginning of May, each of them will have three good shoots at least, and may be planted from thirty inches to three feet apart against the wall; but a dozen of the best kinds should be brought up with one stem only. Still the plants should be stopped, and the strongest shoot of each be kept.

If you strike them as early as the beginning of

April, and do not stop them early in May, but take up the leading shoot, it will be too long for the best height to throw the strongest bloom; and if you defer the cuttings to the beginning of May, and do not stop at all, the first part of the growth will be slender, for want of strength in the then young roots. I tried both ways as late as 1853, and again in 1854, and I give a decided preference to the First of April cuttings, and the stopping at the beginning of May. I left some to make suckers, and guarded against suckers with others; there was no perceptible difference in the growth, or apparent strength of the plants either way, but the blooms on the plants with suckers would not do at a Show, thin them or do with them what I could; while some of my flowers, from the disbudded cuttings, would most certainly take a prize at Stoke Newington, if I had known the way to dress them. I hardly did anticipate such a striking effect, from such a simple cause as the picking out a few eyes from the bottom of a cutting. But there is another thing well known in the fancy, which carries as much weight as want of suckers; and it is well to attend to it just now, with many other kinds of cuttings. I mentioned this from the Highgate Nursery, where Mr. Cutbush had six plants of *Libocedrus Chilensis* from one pot of cuttings; the six cuttings had the same treatment from the day they were put in until I saw them, and yet one of them was worth half-a-crown, or thereabouts, and another worth full three guineas, being six feet high; the strength of the cutting, and the part of the plant from which the cutting was taken, made all this difference. It is plain, therefore, that if we want extraordinary vigour in a young plant—be it Chrysanthemum, or Pelargonium, or Fuchsia, or any other soft plant for a specimen—the cutting should be selected from the *tops* of the very strongest shoots; not from a side shoot, if possible.

The same rule holds good in a practice, quite contrary; there are some plants which grow too strong, and never flower so well when they do; and we find that, by choosing very small cuttings of them from the weakest of the side shoots, we manage to make moderate-sized plants of them, which flower free enough. Therefore, when you wish to have an extraordinary bloom—I mean cut bloom of Chrysanthemum—make the cuttings of the tops of the very strongest shoots you can find, near the outsides of an old stool, or pot plant, early in April—one cutting in a small 60-pot, and take out the bottom eyes; as soon as it or they are rooted, break off the leading bud of each by way of stopping, and let the plant remain in the same little pot until the next strongest eye has started: then is the time to give it a shift, and when it fills the second pot with roots, it is fit and proper to plant out against a south wall, or a west wall, if you mean to chance it for a prize. At the time of planting pick out, or cut out with a knife, all the eyes which remain, or have started, so as to confine the whole strength of a large ball of roots to one shoot, the strongest of the start. Each plant should have half a bushel of the very best rotten dung, and one bushel of the best "moulds" about the place; and a little something to mulch it, to keep it cool, and to regulate the passage of the waterings through the surface of the border. For the first three weeks after planting, water it every second day, no matter what kind of weather we have; after that, once a week will be enough, unless the weather be very hot and dry.

The quantity of water which a strong plant of this family will manage to consume, in July and August, is enormous. I gave ten gallons a day, for weeks together, to one plant of the *Queen of England*, on which I left only three blooms, but such blooms! I never give liquid manure, however, to this family until the wood or growth is very nearly finished; and after that I would give them little else, if there was no bad smell. I trained that plant, and all my stock, just as I did my Hamburgh Grape—on the long rod method; every side shoot was cut just below the first eye, leaving little bare stumps for laterals, which never offer to push a second time. When the flowers begin, the top of the plant divides into three or four divisions; I cut them all but one, and left three blooms on that, which is the best way for the largest flower, but not the safest way to "catch" a Show day: three heads and one flower to each would have been better, because they would come in succession. When they are grown to this extraordinary luxuriance, the slightest frost spoils them, as I can tell to my cost; therefore they ought to be matted over every night, from the beginning of October.

To cover a wall, for private use, the best plan (if it is to be done with plants from cuttings) is to strike them early in April, without disbudding, and stop them once in May. Plant them two and two of a kind, eighteen inches apart; after flowering, take up every other plant, and let the rest flower once more without disturbing them, at three feet apart. All they want the second year is to have the shoots thinned early, and not to train more of them than will just cover the wall, without crowding. Most gardeners prefer renewing them every year, and that was my own plan, but I have proved this to be quite as good, indeed, better for a blaze, but with not quite so large a flower, on several kinds.

But, the plan which Mr. Loudon suggested in 1826, to the Horticultural Society, and the plan which Mr. Barnet adopted at Edinburgh in 1829, is the best of all for the great body of the people; it is to take up the old plants every year, and shake all the soil from the roots, then to select three or four of the strongest suckers for one plant, or planting, and save all the roots; after the middle of April, is time enough for this; but the exact time depends on the kind of winter and the length of the suckers on the old stools—from two to three inches long is the best size for them when they are divided, and they are not stopped from first to last: but abundance of suckers will come up from such plants, and therefore, under this system (which should be the universal system out of doors) the plants ought to be renewed every spring, and you need not confine yourselves to three or four suckers to make one plant; if you choose larger ones, goodness knows there are always plenty of them, and to spare; but pray never take to that slovenly method which some people have adopted of dividing the old ball with a spade, and planting the quarters, a method which has neither law or reason on its side, and practice has proved to be the most troublesome of all in the long run, and the least effective, as the parts of the old stem and hard dry roots continue to throw up a superabundance of shoots, which must be cut and pulled about so often during the summer, as to give a great deal of unnecessary trouble, besides the chance of the pieces getting too dry after being planted out, and making a spindly growth afterwards, and flowering in a long, lanky, weak straggling manner.

Begonias.—Before the Begonias were fashionable in the show-house, we used to have them most abundantly in the flower garden. I recollect the time when you could not find a respectable place in the West of England, without seeing large quantities of *Begonia Evansiana*, about the doors or windows, or in mixed baskets on the lawn, along with *Agapanthus umbellatus;* and at that time I knew a gardener, who had yearly from seventy to one hundred pots of Dahlias, for one of the finest terraces in the county. Many windows opened out on this terrace, and ten Dahlias, in pots and well staked, were allowed to each window, or doorway;

five on each side; and eight or nine pots of Begonia round each group; the Begonias were flowered in No. 16-pots, and, with the pots, stood from two feet and a half to three feet high, and from one foot and a half to two feet across the middle—all in full bloom in the autumn.

At the beginning of April is the right time to begin them—they have large "roots" like Cyclamens, and five of them put into a No. 16-pot, at once, is as good a way as any—if they could get a little assistance in a warm pit, or house, at first, they would flower sooner; but with a cold frame, or even without a pane of glass, I have seen them in cottages, year after year, as fine as on the said terrace. I once had a clever framing-ground man, who insisted on it, that Balsams and Begonias were the only plants worth an honest man's attention; he used to give them a first start in the frames, and, after that, grow and flower them at his cottage, and pride himself in excelling the flower garden by long odds, although the said flower gardener had the run of many hothouses, pits, and frames.

In the summer of 1831, I saw a bed of the *Italian Tuberose* in full bloom, in the open ground at Dropmore, and from that day to this, I have not seen the Tuberose better done; this is just the time to think of them also. Then come the old crimson and scarlet *Lobelias*, and there is not a man in fifty, or perhaps in five hundred, who has a notion of preparing them for bedding out; they spawn like the Chrysanthemum, and this is the time to look after them. The way they do them for pots will not do at all for the flower garden. After providing for pot plants, by potting the strongest suckers now in No. 60-pots, parcel out the rest into two sizes, and use the larger size for permanent plants, as it were, and the small size to be afterwards planted out, at regular distances, in the bed between the permanent plants; put three and three of them into No. 48-pots, and when they are just six inches high, kill or cut out the leading point, and every eye will be a spike of bloom, come in succession, and last a long time.

D. Beaton.

THE PEACH AND NECTARINE IN SPRING.

Although these luscious fruits are somewhat of an ephemeral character, as compared with such lasting fruits as the Pear, yet they lose not in importance, but rather acquire a greater; as evinced by the prices they realise (when forced especially) in our markets. But apart from their luscious character as to the palate, what a glorious dish is a pile of well-coloured *Royal George's*, or bouncing *Galandes*, on a dessert table! be what there may besides, the eye is speedily attracted to fine and well-coloured Peaches. Yet strange to say that, notwithstanding the advance made in the culture of other fruits, the culture of the Peach and Nectarine has almost remained stationary. That this is, in part, owing to the ravages of insects, there is little doubt; but no small part of the affair is attributable to the use of the spade. This severe cropping of borders is, indeed, a serious injury to these tender trees; as they are, perhaps, more susceptible of injury than most fruits, and love to possess a good body of fibres nestling just below the surface. Besides, I do not think that proper soils are afforded them in very many cases. Some gardens are so good as to texture and condition of soil, that little extra is needed; but loose and light soils will never afford stability to the Peach: by dint of rich manurial matters they may be made to flourish exceedingly for a time, but durability is another affair altogether.

It is very common to hear people say, that a Peach is naturally a short-lifed tree; but I beg to differ considerably from this opinion. That they are rather short lived, in point of fact, is true enough; but it is simply because they are so susceptible of injury, both in root and branch. If anyone will plant a hardy kind (say *Royal George*) in sound turfy loam, with an admixture of one-third half-decayed leaves, the whole well mixed, placed half a yard deep on a dry and impervious substratum, and keep the tree constantly free from insects, and duly trained, I will engage that, if it be naturally healthy, it will last thirty years or more; but the spade must not pass over its fibres annually. This limited duration arises from adverse circumstances, before adverted to.

As there may be persons, readers of The Cottage Gardener, who still want to plant, I may be excused for offering a few words of advice. I, therefore, at once say, take the proper pains in planting, secure good soil, choose a sound and healthy tree, and keep away spade culture. But as to after management, by all possible means, let insects be kept down: and, this is not all: there comes disbudding, stopping, training, &c. Loam of that character which is slightly adhesive, even when tolerably dry, is the soil they most affect; and it should be fibrous. Without loam, and planted in old and worn garden soil, they cannot be relied on for many years; with it (other conditions being equal), and proper culture observed, no man may fix a duration for them. The depth of the soil I have before referred to; also, that the bottom or subsoil be sound and dry, or rendered so; and that stations be used, in order to keep the roots from descending below a given depth.

Thus much for principles of planting; let us now proceed to consider after culture. I have in former papers spoken of the propriety of using surface dressings, and I again recommend them as of much importance; that this, if applied, should not be before the soil is warmed—say the middle or end of May.

But, I may here observe, that there are other ways of raising the condition of the trees, if in need of strength, than the surface affair. One of the best practices, I think, is to throw out a trench in front of the tree, at such a distance, as to just cut off the extremities of the roots; and to introduce fresh loamy compost in the trench, constituting a kind of zone of new soil around the tree. This excavation is not obliged to be circular, or any other set form; the operator should dodge in and out, with his spade, accommodating the roots all he can. As to depth, it should be not more than two feet, and the fibres disengaged should be spread out nicely on this material. Where trees are weak, this compost may be rich in manurial matter, taking care that the loam be sound. This trench may be of any width, according to the needs of the trees; but, if the soil had been prepared for the trees originally, from a foot to half a yard will generally suffice. The month of March, or the very beginning of April, is an eligible time for the operation, if omitted in the previous autumn. About the first week in November being, in my opinion, the best time of all. Of course the trees will receive a slight check for a few weeks, but this will be amply repaid by the time the fruits are swelling, for by Midsummer abundance of fresh fibres will have taken possession of the new soil, and these will probably furnish more nourishment than the old roots, for it will be found they multiply exceedingly.

I may now refer to the use of the water-pot, on soils known to be affected with drought; for although the Peach and Nectarine, like the Vine, abhor stagnated moisture, they equally delight in a proper amount of moisture at certain periods. It is always to be presumed that the earth is moist enough for their needs, until the fruit is as large as *Marrowfat Peas*; water applied before this period, out-doors, under any circumstances, is doubtless more or less an injury, as tending

to prevent the solar heat from entering. But, trees hard worked, and, perhaps, carrying full crops, are heavily taxed sometimes about, or soon after, Midsummer, and if the volume of the soil where their roots are situated becomes too dry, why we may fairly expect the trees to cast much of their fruit in the stoning process. Thus we often hear complaints of this kind, the owners completely puzzled as to the cause. I do not mean to affirm that all fruit casting is caused by drought alone, being well assured that stagnation is as great an evil. I, however, throw out the hint for those who know their trees are liable to be affected by drought. Such is my case, and seldom a summer passes but I water Peach and Nectarine trees at the end of June, or, perhaps, earlier. But we seldom water more than this once, but then it is indeed watering. Full grown trees receive, at least, a score buckets of water; and, if rather weak, some guano or dunghill drainings are, perhaps, added to the water. I consider it of importance, too, to water on mulching materials, and that the latter be well warmed by the heat of the sun; therefore, the afternoon of a sunny day is best for the purpose.

We may now refer to the points necessary with the branches, blossoms, shoots, &c.

First, then as to training; of course this will have to be carried out, if not done. Then comes protection, for those who think well of it; some, it appears, still object to it. But it is the abuse, and not the use, of protection which misleads some of its opponents. Let those, therefore, who would examine this question fairly, approach it as free from prejudice as possible. One man leaves his covering on almost continually; another, whose plan I would recommend, only draw his blinds down in cases of sheer necessity. So far from fearing a puff of wind, he would rather invite it, as tending to harden the blossom-buds in course of development. It is a pity but this question was dealt with in a more liberal way, and that points, apparently trivial to hasty observers, were better distinguished, and not judged of in the lump. I have years since, in the pages of The Cottage Gardener, so explained these matters, as to render them, as I think, exceedingly plain; but, somehow, they get mystified again. How any person can think that a Pear, Apricot, or Peach blossom, can be expected to endure a dozen degrees of frost, when the blossom is out, or nearly so, unscathed, I am at a loss to understand. And, if it be admitted, that tender blossoms are susceptible of injury from very low temperatures, why the question of protection would appear to be recognised; and all that remains is, how to carry it out. Protection then, as all coverings happen to be called, has but two uses, viz., as a retarder of the blossom-buds, and to ward off those keen frosts which we are apt to experience in March and April. As a retarder, they should be put up early in February, and should be used principally to keep off sunshine; as a protector, when the trees are in blossom, simply to keep off intense frosts, daily hardening them by free exposure to winds, &c.

I may now refer to another spring proceeding of importance; the thoroughly cleansing the trees from insects. The moment the blossom is set, the aphides are almost sure to make their appearance, and must be grappled with at once. Of course the trees will have received attention, if troubled with the scaly insect previous. Tobacco water, applied by the syringe, is still the best destructive we possess, and this applied two afternoons in succession, if possible, will clear the trees of this pest. Let no one expect success in Peach culture, if the green fly is allowed to prevail; this alone is enough to baffle the brightest expectations. It is well, after this tobacco application, to souse the wall and trees with clean tepid water, both on account of decency, and to clear away lodgments, occasioned by the ravages of the plant lice. Peach and Nectarine trees, after even a slight attack of aphis, are apt to receive a very considerable fret, and folks sometimes imagine that they are still suffering from some ailment. This merely shows, how serious the attacks of these insects are, and offers a warning against what might otherwise be deemed unimportant. And now we must refer to another enemy, whose advent must be provided against; one not less insidious or dangerous than the aphides. I mean the red spider. It is some years since I first recommended a clay and sulphur paint, in the pages of the ever instructive Cottage Gardener; but I have not ceased, as spring returns, to urge the importance of it as a preventive, and I was somewhat amused a week or two since, to find my paint strongly recommended by a calendar writer in a contemporary work. But to shoot with another man's powder has become most fashionable of late. This clay paint, however, is a mighty antagonist of the spider, and applied annually, is of itself a guarantee against any severe depredations.

The next thing in order, as spring work, is the waiting on the newly-developed bud: "disbudding" this is generally termed. The necessity for this arises from the fact that Peach trees, in a healthy condition and trained, produce many more shoots annually than can be retained. As soon as the trees are out of blossom, the young shoots are produced, and a selection becomes necessary. Of course, the best-bearing shoots are selected, and those which get closest to the wall; but this disbudding must not be done at once—it must be gradual. It should be commenced when the young shoots are a couple of inches in length, and repeated in about three weeks; the third or last disbudding a little before Midsummer. Many persons, not accustomed to gardening operations, are puzzled about this simple process, but there need be no difficulty about it. A little consideration of the reasons for it, and an eye to distinguish the differing character of the shoots produced, will soon convey an idea of what is requisite. What are termed foreright shoots are first stripped away, and these being generally gross are not of fruitful character. Then it becomes the operator to select from the remainder, and to reserve a liberal amount at thinning; the whole to be rummaged over again at the final disbudding. The shoots finally reserved should be selected on principle; but I think I hear some of the amateur readers of The Cottage Gardener exclaim, what principle? Now we all very well know, that a good deal of gardening goes "as the maggot bites;" but let us not be cheated out of our principles by trite sayings. This, then, I would urge on beginners, that in Peach wood reserved no two shoots should be of equal length, and in equal position. These things being properly carried out, there will not be a crowding together of the foliage, and the wood will have every chance of ripening. When trees are too weak, it is sometimes necessary to reserve the stronger shoots; and when too gross, that of a more moderate character. Gross shoots, which have a tendency to burst into axillary wood, should have their points pinched when about six inches in length. This is a most important procedure, and is generally performed through the end of May and early part of June. By this the young wood can be kept of the most equal strength, through the whole of the tree, and this can never be accomplished by any mode of winter pruning; the former being a safe preventive, the latter merely an attempted remedy for the inequalities of previous growth. After the preceding operations are fully carried out, the remaining matters are principally summer and autumn work, and pass by them now as occupying too much space; a subsequent paper must disclose them.

I may, however, finish with a few general remarks. All these appliances, without freedom from insects, are ineffectual. I may here repeat, that the sulphur paint is thus made by me:—Soft soap (three ounces to the gallon) is beat up in tepid water, and this is thickened with clay until a paint; sulphur is then added most liberally (about four handsful to a gallon of the aforesaid), and the whole well beat up until a thick paint. This is plastered on all portions accessible between the branches. In order to subdue the bright colour, I use soot, and the mixture is tested before using. As to thinning out the young spray, it should be completed, in my opinion, by the end of June, or beginning of July.

R. Errington.

WELLINGTON ROAD NURSERY.

MESSRS. E. G. HENDERSON AND SON.

To see a great nursery like this, in the midst of the spring-propagating bustle, is a grand sight indeed, but to see the packers at full work, and to see the ease and regularity of motion, by which the whole establishment is governed, is a better sight. If we, of the Horticultural Society, had lost "admirable judgment and practical good sense," we might have found them again, in such places as this.

But to the point. Let us begin with 300 yards of *Cyclamen Persicum* in full bloom, and 350 yards of *Cyclamen Coum*, *Atkinsii*, and their intermediate hybrids; all in one blaze of bloom, and that, indeed, was a "sight." The *Persicum* has been more than 200 years a favourite pot plant, and spring flower, and its merits were sung at the last March Meeting of the Horticultural Society, just as if it were a new plant. The thousands of the new race of Cyclamens, are ten times more useful, however, than even the tribe of *Cyclamen Persicum*, as they are quite hardy, and never fail to bloom every spring, in March and April; but I shall write a paper on all their ways shortly, and go on to say, that all the new kinds are to be had here by the hundred, or thousand, or by the dozen, or singly, as cheap as the old kinds. *Atkinsii* is the first cross we ever had, between the hardy and greenhouse Cyclamens; between the scarlet *Coum* and the white *Persicum*, and by breeding in-and-in—the grand secret in improving the vegetable kingdom—this new race is now as diversified in the flowers as the Cineraria. Some are deeper, much deeper-coloured than *Coum*, reaching to purplish crimson, and just like the Rose, every other shade of colour up to marble whiteness, without one particle of difference in their style of growth. Here, then, is the first bedding plant of which we can make the first perfectly-shaded bed, beginning with dark crimson in the centre, and ending with a row of pure white round the outside, and every leaf and flower-stalk in the bed to be exactly of the same size and style of growth. The bed to last full two months in bloom; outside, and just opposite the parlour window, in March and April; and fourteen degrees of frost will not hurt a bloom on it. There is a whole "cradle" of them here, covered only by a single mat, or, say about 5000 plants, and each plant had, on the average, ten open flowers during the late hard frost, and not a single bloom out of the 50,000 could I see hurt in the slightest degree. But, as I have just said, I must probe this new race to the very core, and before I have done with them every lady in the land will be in love with them, of that I am quite certain, because I can tell such things from what I feel in my own blood.

Farfugium grande, which was sold last autumn above twenty guineas the dozen, we shall have sufficiently cheap in another year, to enable us to try it as a new style of variegated plant for an edging to some of the flower-beds. Here the Messrs. Henderson have it already on sale by the score, and for the next three or four years it will be one of the best trade plants in England. Although the Messrs. Lobb have been successful in getting home novelties, strange to say, very few of their plants make good trade articles. Fortune's plants, on the other hand, are household words, and this *Farfugium grande* he got in the north of China, by the merest chance. An old woman, or priest, or somebody, having kept him longer than he wished, he made the nearest "cut" to the next town, and saw this *grande* growing by a little florist in a back street; and it will reach as far and fast as his *Dielytra spectabilis*, and neither of them will ever get out of cultivation.

Monochætum ensiferum, the dark rosy flower I spoke of at the Meeting of the Horticultural Society, gets the same treatment as *Pleroma elegans*. The two plants are on a par, which is the best character for *ensiferum*, only that *Pleroma* is a much stronger plant; and here are many beautiful young specimens of it, particularly in one low span house, which runs north and south, half across the Nursery, with a walk down the centre, which is edged the whole length with pots of Cyclamen in bloom, besides a row on the dwarf walls, on which the slopes rest, making four rows of Cyclamens in full bloom; and, in addition, there are two banks of Cyclamens just as you enter, occupying five or six feet of the whole house, right and left. From these banks run down specimens of fine greenhouse plants, placed three to four feet apart, on inverted pots, and *Pleroma elegans* is the principal among them. The rest of the stages are covered with the very youngest of the most choice greenhouse hard-wooded plants, and the stages themselves are beds of rubble, covered with very fine cinder-ashes. It is a principle here, to have every pit and frame, and house, or parts of pits and houses, covered with sifted ashes, or sand, or tan, or anything *cool and moist*, to set the pots on, in preference to wooden or slate stages. Also, to have all houses and pits, of which there is no end here, on the span-roofed plan, and to be able to have bottom heat independently of top, and top heat the same.

A new propagating pit, or low span-roofed house, 126 feet long, and eight feet wide, with a path in the middle, and top and bottom heat at will, should be asked about, and be seen and examined by all our country cousins who visit here, as a perfect model for all kinds and all sizes of forcing-houses, for winter work, and for economy to the bargain; that is, economy of construction. There is no front putty in all this glass, the squares are bedded in putty, and a zinc, or tin, or copper brad holds down each square firmer than putty, and one coat of paint every summer is found to be much better, for all plant structures, than two coats every other year, or three coats once in five years. All the lights on this model pit-house, and most of them all over the Nursery, are hinged at the top, in a simple way, which is very seldom used, and which kills two birds, for it makes the light stronger than usual, and easier to handle at the same time. An angle piece or half T of iron, of the breadth of a common iron hoop, embraces the two top corners of the light with screws, and the top of the angle is formed into a broad hook, and two knuckle "joints," or hinges fastened to the ridge piece, receive these in the way of "hook and eye." All these lights hook and unhook as easily as the *top hook* in a lady's dress; no wind can blow them off, and by lifting up the bottom of the light, and supporting it, you can work or examine among the plants inside as easily as if you were inside yourself, and the giving and taking off air is so much more safely done. But with all our improvements in hothouse building, if I am not mistaken, the Chinese carpenters have beaten us in the make of Wardian cases; at all events, any one who is about London, and is going to send new Geraniums to Melbourne, should send his carpenter to see the Chinese Wardian cases now at this Nursery, for in them many kinds of new Camellias, and other plants from China, have come over just in as good condition as if they were in a little London greenhouse all the time; but he, the carpenter, must go soon, for the cases are to be filled and sent back to China for another load. It is more easy now to get plants from China in these cases, than it was to get them from Edinburgh to London the first time I came up.

Isabella Grey, the new Tea-scented Rose from America, which was exhibited by Mr. Low before the Horticultural Society last spring, was bought by this firm, and it has had a great run since last autumn. I saw it being propagated in a way that would astonish some of us, a few years back; strong plants of it being got up in a few weeks, ready for sale, by grafting single buds of it with a heel, low down, on stocks of the Manetti Rose, in pots. These buds start immediately in moist, close heat, and make shoots from a foot to eighteen or twenty inches long, which are then fit for market. The stock is cut square off three inches from the pot, and the heel of

the bud is merely inserted between the bark and the wood, and tied with cotton or worsted thread, without claying, or mossing the graft. Camellias are grafted just in the same way in August and September, but on small young stocks. The winter is before them to get well established, and in the spring they start, and make as good a shoot as if the bud were on its own branch all the while. But when an old plant of Camellia is cut down, to be grafted with another kind, the work is better to be done in the spring, from the middle of February to the middle of April. I saw an old stock of Camellia, nearly as thick as my wrist, and it must have been twenty or thirty years old; it was cut, or headed down, last spring just like an old Apple tree, and grafted in the same way with an Italian seedling. It made a strong branching head in one season, and they are now taking off buds of it, with heels to them, to be grafted in the same way as Roses. Here is a wonderful process, by which any one can change the kind of Camellia, be it ever so old, or so thick in the stem. If the oldest Camellia in England is well at the roots, all you have to do is to buy a young plant of any favourite kind, saw off the head of the old plant at one foot or ten feet from the ground, and put one, two, or three grafts in, like crown grafting, and in two more years you have a full bloom of your new kind; or you may saw off so many branches, and put in a graft of a different kind on each of them. The Chinese do them that way, and they work them from a single eye, as we do. Indeed, there does not seem to be the smallest difference between the operations in a London propagating house and those carried on in China; and their way of packing is just as good as ours.

Bouvardia longiflora beds out as well as *Tom Thumb*, and blooms as freely, and as long out of doors. It is as white as the driven snow, and much like a white Jasmine in a bed, and strikes as freely as Verbenas. It was tried out, and proved, in 1856, in one of the best flower gardens in England—that at Enville Hall, belonging to the Earl of Stamford and Warrington, one of the best patrons, and the best critic of flower gardening we have amongst us. Then a most lucky hit was made recently by Mr. Parsons, of Brighton, who crossed this white Bouvardia with the scarlet Leianthus, and obtained four distinct kinds of crosses; and the whole are in this nursery now on sale, and there is no doubt about their making fine bedders, with flowers somewhat like the Crassulas, and the two old *Bouvardia splendens* and *angustifolia*, both scarlet, would make capital edgings for such beds. But I shall have to return to them also after awhile, and shall only say now, from our own Experimental, that *Bouvardia leianthea* ought to be grown like *Fuchsia serratifolia* out of doors in the borders, and to be potted about the middle of September, to bloom all the winter.

Gaillardia coronata nana, quite a new kind, is said to be the best bedder of that family. *Heliotropium aucubæfolium* is as variegated, in a pot, as *Flower of the Day*. *Tropæolum elegans*, the Nasturtium bedder at the Crystal Palace, is here on sale, and no one need be without it for fear of the price.

(*To be continued.*)

CUTTINGS IN SAND AND WATER.

In The Cottage Gardener (Nos. 490 and 491) our worthy friend, Mr. Beaton, gives us Mr. Kidd's mode of propagating bedding plants; a very desirable thing for those who are in the habit of bedding out extensively. I cannot exactly agree with Mr. Beaton, in what he says respecting Mr. Kidd's system of propagation. I tried the same plan, to the letter, as Mr. Beaton proposes; but it did not answer with me, as I could wish. As to the striking part of the piece, they struck fast and successfully enough; but after I potted them off, I found nearly fifty out of every hundred damped off. My impression is, that they do not do so well when struck in the sand and water as they do when they are struck in mould and sand; and you are obliged to put the cuttings in so close together, or they would fall overboard; but I must be careful how I give my humble opinion on the matter, or I shall have the whole force of the Experimental down on me. When I tried the sand and water system, those of them that did survive were so weakly, that half the summer was gone before they made much show; although I placed them on nice gentle hotbeds, and took great care of them: when they were in the hardening cradles, they looked like a troop of Grenadier Guards, with their weak brushy tops and spindle legs. I have a stove, which I use principally for propagating now, as I shall want something like 7000 plants for turning out this season; it is a span roof, 25 feet long and 9 feet wide, heated with a small conical boiler; the path is through the middle of the house; on one side there is a tank three feet six inches wide, on the other a flat wooden stage; there are nine inches of water in the tank, and a small two-inch flow and return pipe goes through the water. I had some rough slabs of wood put a little above the water, over them I put eight inches of fine light sifted leaf soil, and in that I plunge my cutting pans; I have had a lot of pans made on purpose, nine inches in diameter and two inches deep. Having provided myself with some nice mould for cuttings, I place a crock over the bottom of the pan; I then put in half an inch of the rough siftings of the cutting mould, and fill the pan nearly full with mould, taking care to make it firm; I put a little sand on the top, and sprinkle with water through a fine rose. I then take my cuttings off, not caring about cutting them off at the joint, as was the old-fashioned way of making them. Mind, I am not speaking of Geraniums, but of Verbenas, Lobelias, Calceolarias, &c. I then dibble them in with my pencil, sprinkle again with fine tepid water to set the sand firmly about the cuttings, and in five days they are all struck, not one in a hundred missing. I then place them on shelves, in the same house, close to the glass; two days after they have been in that position, I pinch the tops of them out; five days from that time they will have made four side shoots; I then place them at the coldest end of the house, ready for potting. They are by this time short-stocky plants. I have a cold pit, where I place them after potting off. I get from the brewery a few loads of hops, fresh from the brewer's hands; I fill the pit up to about eight inches of the glass; in these I plunge my fresh-potted plants, and there is a nice warmth in the hops which lasts until the plants are established, when they are shifted out into cold frames and cradles, to make room for another batch.

I have now about 900 *Lobelia speciosa* and *occulata*, and nearly 2000 Verbenas, in good order for potting. Any one trying this method, I think, will be amply repaid for their trouble; as the plants so soon come into bloom after being planted out.—J. W., *the Gardens, Woodlands, Middlesex.*

FLORISTS' FLOWERS.

THE DAHLIA.

Last year, about this time, I gave a long paper on the culture of this fine autumnal flower, to which I refer our readers. According to annual custom, I now give selected lists of the best new and older varieties. Persons intending to purchase should give their orders soon, in order to obtain good plants early. If they should, however, come in in weak condition, let the amateur repot them, and keep them under a cold frame, well protected from late frosts. In that position, if well watered, it is astonishing how much they will improve in strength in a short time.

Twelve Selected New Varieties.

1. *Alice Doronie* (Keynes), clear pure white, without the slightest tinge of green in the centre; form good, with a full centre; three feet.
2. *Elizabeth* (Barnes), bright rosy pink; a novel colour, deeply cupped, symmetrical and full; four feet.
3. *Goldfinder* (Turner), golden yellow; large double.
4. *Imperial* (Dodds), light rosy purple, deepening to maroon in the centre, outline even; a good show flower; three feet.
5. *King* (Rawlings), fawn, pencilled with purple; well built in form, perfectly round, very stout and smooth; has obtained several prizes; three to four feet.
6. *Lilac Model* (Legge), shaded lilac, great depth of petal; high centre and constant; four feet.
7. *Marchioness of Aylesbury* (Dodd's), white, edged with pale lilac; a full-sized flower; has obtained several first-class certificates; three feet.
8. *Mr. Critchett* (Rawlings), amber colour, smooth and

well-formed, average depth, and a fine centre; obtained several first-class certificates; three to four feet.

9. *Mr. Gilbert* (Legge), fine dark maroon, high centre and constant; four feet.

10. *Safranot* (Barnes), bright golden buff, petals very stout and finely cupped; three to four feet.

11. *Sir Joseph Paxton* (Dodds) golden yellow, slightly tipped with reddish purple; a large handsome flower, finely cupped, and even in outline; has obtained first-class certificates on the only two occasions when exhibited; four feet.

12. *Venus* (Rawlings), blush white, tinged slightly with peach; delicate and beautiful; obtained several first-class honours; three feet. (10*s.* 6*d.* each.)

Selected Older Varieties.

Amazon (G. Holmes), white, tipped heavily with crimson; three to four feet.

Beauty of Versailles (Salter), dark purple; fine; three feet.

Bessie (Turner), deep bright yellow; three feet.

Cardinal (Skynner), bright scarlet; fine form; three feet.

Climax (Harrison), fine rich crimson; three feet.

Colonel Wyndham (Turner), deep rose, with small bronze tip; three feet.

Duchess of Beaufort (Bush), blush white, tipped with dark purple; full and constant; four feet.

Duchess of Wellington (Turner), pale cream; full and constant; three feet.

Fanny Dodds (Dodds), pure white; constant; three feet.

Fearless (Barnes), still the best lilac; five feet.

Grand Sultan (Turner), dark maroon; full size and fine form; three feet.

Lady Folkestone (Keynes), yellow, tipped with purple; fine form; four feet.

Lady Popham (Turner), white, delicately tipped with lavender; four feet.

Lollipop (Holmes), salmon buff; fine shape, centre full; five feet.

Lord Palmerston (Holmes), deep crimson scarlet; compact; four feet.

Midnight (Fellowes), nearly black, sometimes shaded with purple; three to four feet.

Miss Burdett Coutts (Turner), fawn colour; a good variety; four feet.

Primrose Perfection (Keynes), bright primrose; four feet.

Roland (Bush), white, tipped with crimson; large and constant; four feet.

Royal Scarlet (Keynes), rich crimson scarlet; fine form; three feet.

Silver Queen (Keynes), light peach, shaded silver; four feet.

Sir J. Franklin (Turner), shaded buff; beautiful in form; four feet.

Touchstone (Fellowes), rosy purple; early and fine; four feet.

Yellow Beauty (Turner), bright yellow; fine form and constant; four feet. (9*d.* each, or the set for 12*s.*)

New Fancy Dahlias—selected.

1. *Eliza* (Barnes), crimson, tipped with white; fine form; excellent; three feet.

2. *Favourite* (Keynes), blush, striped with crimson purple; very beautiful, full and constant; has obtained many honours; three feet.

3. *Marc Antony* (Salter), golden yellow, striped with crimson; a gorgeous variety and quite unique.

4. *Miss Hamilton* (Dodds), blush, striped with rosy crimson; a compact flower of medium size, with close centre; three feet.

5. *Mrs. Seacole* (Keynes), red, flaked and dashed with crimson, and stained with yellow; a remarkably strange flower; has obtained many first-class certificates.

6. *Mrs. Boshell* (Rawlings), pure white, flaked with rosy purple; fine form; three feet.

7. *Queen* (Rawlings), creamy ground, suffused with pink, and dashed with crimson; the finest fancy Dahlia yet raised; obtained first-class certificates wherever it was shown; three feet.

8. *Tiger* (Keynes), red, heavily striped with maroon; distinct and fine; has obtained many honours; three feet. (10*s.* 6*d.* each.)

Fancy Dahlias. Older Varieties—selected.

Alliance (Perry), lilac ground, shaded and spotted with dark maroon; four feet.

Baron Alderson (Perry), bright orange, tipped heavily with white; two to three feet.

Butterfly (Salter), yellow, striped and spotted with red; fine; four feet.

Carnation (Keynes), clear white ground, striped and spotted with red; four feet.

Cleopatra (Salter), orange yellow, striped with crimson scarlet; four feet.

Duchess of Kent (Knight), pale yellow, tipped with white; four feet.

Fancy King (Legge), orange and scarlet, tipped with white; four feet.

Gloire de Kain (Cailloux), white, striped and spotted with maroon; four feet.

Inimitable (Salter), bright orange salmon, striped and spotted with crimson; three feet.

Miss Herbert (Dodds), lilac fawn, tipped with pink; three feet.

Pigeon (Kniff), white, with rosy salmon edge; three feet.

Topsy (Keynes), purple, mottled and striped with white; two feet. (1*s.* each, or the set for 9*s.*)—T. Appleby.

STRIKING CUTTINGS IN SAND AND WATER.

When I wrote my hurried note on this subject to Mr. Beaton, my instructions were chiefly intended for amateurs, who had small flower gardens, but without glass of any kind for such purposes. The instructions were to show, that they might take a tea-saucer filled with sand and water, put the cuttings into it, place it inside of any room window of the house, and that they would strike.

This is my own idea, proved for this very purpose, and is quite original.

Scores of gardeners, to my knowledge, have adopted the sand-and-water system for cuttings in hothouses, frames, &c., for years, and if your correspondent, "Frank," thinks there is merit or honour connected with such simple instances as these, pray by all means let it be duly awarded, but I see none. It is only a part of one's duty, ever to be willing to publish instances of this kind, that might benefit or promote the objects of the lovers of horticulture. I copy nothing from other publications, and what I write, I do from practical results. Still, had I the power over all Editors, I would at once say, I shall never publish one word on any subject, unless the real name, and address in full, of the writer accompanies it. This would at once put an end to a nuisance, that some of our best practical writers have been subjected to for years. Then we should know, at once, whether critics were worth replying to or not.—D. Kidd, *Hampton Court.*

GROWING PEAS.

There seems nothing more puzzling to one, not in the mysteries of any calling, than the multitude of names by which articles are offered to him. Take, for instance, a seedsman's circular, and the list of Peas is perplexing. Some in italics to indicate unusual excellence, others prefixed with a star for some other good point, while all are said to be good, some super, and not a few extraordinary. In this respect, seedsmen equal, if not surpass, that class of tradesmen who often fall under the sarcastic lash of our friend *Punch.* But, it is not my purpose here to find fault with this, but only to assist the inexperienced in selecting what may be of service to him. Peas, for instance, being one of the all important season vegetables which everybody likes, and everyone is anxious to grow as many as they can. This latter desire is not at all times the most prudent one, for if the space at command be very limited, I would advise some other crop than Peas under most circumstances—for they can generally be bought pretty good in many places in the south of England—but in remote country places, where there is plenty of room, and stakes for them to climb up by, it is then advisable to sow as many as are likely to be wanted. So much depends on this, that no

specific directions can be given, but it is as well here to observe, that in hot dry seasons, Peas do not answer well on very dry soils, consequently, it is more prudent to crop with something else, as, for instance, *Kidney Beans* or *Scarlet Runners*, both of which withstand a dry season better than Peas, and continue longer in bearing, especially *Scarlet Runners*, which keep in use to the end of the season, after they once begin. But where it is determined to have Peas in the garden, the kinds grown must accord with the means at hand, and other points necessary here to consider.

In general, some other crop is planted along with Peas, unless it be those intended for very late use, and then a row of Spinach only can well be grown; but for the crops that are expected to be got off by the first week in September, or so, it is but to sow the rows much wider apart than usual, and to plant the crop intended to follow them, in rows between; so that the after (or winter) crop may succeed to the whole ground, at the fitting time; care must, of course, be taken not to injure this crop while gathering the Peas, and as soon as the latter are no longer useful, let them be removed. Do not even wait for this if they can be done without, as it is important to give the late crop all the chances possible, to strengthen in the autumn weeks, and if this crop be of the Broccoli or Cabbage tribe, they make much progress at this season. Nevertheless, the Peas must have some attention, and the kinds most suitable for the situation ought only to be sown. Generally speaking, those moderately tall are the best, and they may be selected amongst the class usually designated as best fitted for the general crop. The *British Queen*, and some others, are very good Peas, and many others of the *Marrow* section, are good bearers, for I would strongly advise the tall ones to be grown where stakes can be had, they produce so many more; but where they cannot be afforded, the dwarf kinds, as *Woodford's Marrow*, *Bedman's Imperial*, and others not more than three feet high, had better be selected, and sown at intervals of ten days, or so, until the beginning of July, after which they rarely succeed well. Of course, much depends on the ground, situation, and season; the latter having, perhaps, more influence than anything else. In very dry, hot soils, sow thinly in the row, and occasionally water with manure water.

Although I have advised those having only a small plot of ground to go to market, and buy their Peas, those having abundance of room, cannot always obtain them in their gardens, even in healthy good neighbourhoods, for it sometimes happens that birds take such a fancy to Peas, that they rip open every pod ere the young Pea be fit to gather. This is often the case in rural districts, where gardens are surrounded, as they often are, with woods or hedges, which harbour these little warblers in greater quantities than is agreeable, in the fruit and Pea season. The inexperienced must keep this in mind, and not be too sanguine in his expectations of pecks of Peas, at all times, during the season. Prevention is a difficult matter to such sharp-eyed enemies. Netting will scarcely exclude them, and watching is tedious, and often out of the question; while the shooting of these mischievious depredators is often forbidden by the lady members of the establishment. All these reasons together render it prudent not to sow too many Peas in places where other crops would be equally useful, and more certain in not being molested. For half a dozen rows of Peas in a garden, bordered by a wood or other place frequented by birds, is a temptation which no rattling windmill, scarecrow, or other device, will prevent birds from meddling with. And as large fields of Peas are grown for market, and sold at a moderate price, the growing of a small quantity, under adverse circumstances, is often attended with more losses than was expected. A few for very early use may, in most cases, be advantageously grown; afterwards, if the garden be only a small one, and subject to the misfortunes above, I would say, plant something else.—J. Robson.

BEDDING GERANIUM.

"An Amateur," at page 300, asks you to recommend a good bedding Geranium with white variegated foliage. Will you allow me to recommend *Lee's Attraction?* This, with its crimson horse-shoe foliage and cerise-coloured flowers, makes a rich and lovely bed, far superior to *Flower of the Day*, or to *Brilliant*. The latter, though of good habit, and a very profuse bloomer, nearly loses its variegation when bedded out; and *Mountain of Light* is only fit to grow in connection with *Golden Chain*, for sake of its foliage, the flowers being picked off.

You say we are still in want of a good varigated Geranium with large truss, good shape, and colour, &c. I think some of those recently sent out by the Messrs. E. G. Henderson, Lee, Kinghorn, &c., are all that can be desired, judging from form, colour, size of truss, fine foliage, &c. But how they may succeed, when bedded out, remains to be proved this ensuing season. But what is certainly most wanted in the way of variegated Geraniums, for bedding out, is something like *Golden Chain* foliage, with robust growth, and a good flower.

Golden Chain only succeeds well in some favoured localities, and when it does so, the flowers ought always to be picked off, as they are quite worthless, and disfigure the bed rather than otherwise; and a flower-bed without flowers is somewhat anomalous.

Will you kindly inform me, if you know of any bedding plant with yellow variegated foliage? I procured a Geranium called *Lady Cottenham*, or *Golden Circle*, but this I found, in all respects, inferior to *Golden Chain*.—Another Amateur.

SCHOOLEY'S PATENT PRESERVATORY.

The main feature of the preservatory is the production of continual currents of cold dry air, without mechanical aid, by the use of ice. It is well known that to preserve meat, or fruit, a certain degree of cold is desired. Nor is this *alone* requisite; the air must be *dry* and *pure*, or the moisture would destroy all. We construct adjoining each other two rooms, separated by a partition, open a few inches at top and bottom. These rooms are insulated against the ranging temperature of the outside air, by packings several inches thick on all sides of nonconducting material, such as charcoal, saw-dust, tan-bark, or any dry vegetable matter, changing the size and peculiar position, shape, &c., to any locality or purpose desired. As an instance of the range of size, we have here one house fifty by one hundred feet, and eight others, down to the small chest on the same plan, three feet by six feet. The operation is thus: The ice-room containing ice,—the air in contact with it becomes suddenly cooled; its moisture is condensed; it becomes heavier; and flows under the partition,—pure dry air at a temperature a little above that of the ice itself, into the preserving-room among the articles, forcing the lighter and warmer air to the top of the room, whence it flows to the ice-room, and is drawn down among the ice, where it in turn deposits its moisture, and flows out again, thus producing a self-contained and actuated current of cold dry air. When, after a time, this air becomes impregnated with the odour of the articles in store, ventilators are provided for expelling it immediately, and restoring fresh air.

Lewis F. Allen, Esq., of Black Rock, New York, writes as follows:—"I have seen the preservatory several times during the past season, and examined the articles stored in it, and confirm all that Mr. Alberger states in relation to them. I believe the adoption of such a preservatory by the dairymen, fruit-growers, hotel-keepers—in fact by all who have perishable material, which they wish long preserved, will add greatly to their interests and profit by doing so.

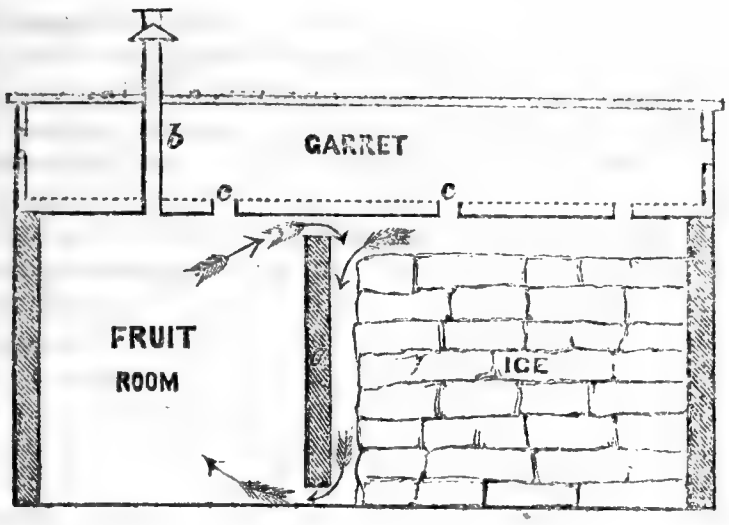
"I saw milk two weeks old in one of these structures, which was as sweet as on the day it was deposited there, and covered by a thick crust of the richest cream. For butter dairies, the preservatory would be of incalculable service.

"I have not the slightest pecuniary interest in this invention, and look upon it only as I do upon all those discoveries which tend to relieve labour of its burdens, and work for the great good of the human family.

"I intend to erect one on my own farm the coming season, believing it to be much more effectual in its objects than the common, yet very well constructed, ice-house, which I have had in use for many years."

In addition to this testimony, we may add that after an examination by a Committee, a gold medal was awarded by the Executive Committee of the New York State Agricultural Society, a few weeks since, to this invention.

In order to assist our readers in comprehending the principle of its operation, we annex the following section of the structure, drawn from recollection of the model exhibited at the Fruit-Growers' Meeting at Rochester.



The arrows show the currents of air. The partition *a* separates the ice vault from the fruit-room. The air in contact with the ice, of course, descends in consequence of its density from coldness. It must, therefore, flow into the fruit-room, through the opening or slit under the partition *a*. The warmer air, in the fruit-room, must inevitably flow back through the upper opening, over the partition *a*. Thus a constant stream of cold air pours into the fruit-room; and, by the use of registers to open or close the openings, the precise degree of temperature may be controlled with the greatest accuracy. The circulation of air is kept up precisely in the same way that hot water currents are maintained, in warming greenhouses and other apartments.

When the air in the fruit-room becomes impure, the ventilator *b* is opened a few minutes for its escape, and fresh air comes down from the garret immediately above, through the orifices *c c*, which are also opened only at the same time. Fresh air is constantly admitted into the garret at the ends.

The walls of the structure are made double, and filled with saw-dust, as in a common ice-house above ground.

NOTES ON NEW AND RARE PLANTS.

Adenocalymna comosum. *Dec.* Nat. ord., *Bignoniaceæ.*—Native of Brazil. Stem strong, climbing, branching freely. Leaves opposite, on short stout petioles, trifoliate. Leaflets acutely ovate, quite entire, smooth, slightly coriaceous; veins prominent on the under-side, dark green; the centre one is sometimes represented by a cirrhose, or tendril-like appendage. Inflorescence racemose, furnished with deciduous bracts, axillary. Peduncle and pedicels short, and rigidly stout. Calyx short, tubular, with a limb of five acutely ovate segments, green. Corolla large, bright yellow. Tube contracted near the base, and dilating towards the limbs, very deeply channeled on the under-side; obscurely so above. Limb divided into five obovate, or obcordate, segments, wavy. Stamens four; two long and two short. Style long, stout, surmounted by an ovate, two-lipped stigma.

A most beautiful stove climber, with long-lasting flowers, produced in considerable profusion; and being a winter-blooming plant, it is highly desirable. A strong loamy soil, with about a third portion of peat and sand, seems the most suitable for it. It may succeed very well, cultivated in a pot; but it is best planted out, and trained up the rafters. After the blooming is done, it should be well cut in. It propagates freely enough from cuttings of half-ripened stubby shoots.

Hardenbergia digitata. *Lindl.* Nat. ord., *Leguminosæ.*—Native of the Swan River. Stem climbing, slender, branching freely, and extending far. Stipules small, and triangular. Petioles about two and a half inches long. Leaves digitate; sometimes trifoliate. Leaflets lanceolate, obtuse, minutely mucronate; the centre one on a long petiole; margins reflexed; veins beautifully reticulated; thin in texture, bright green. Raceme long, and many flowered. Flowers beautiful bright blue. Calyx short, furnished with five acute teeth. Upper petal nearly orbicular; the two lateral petals obovate-oblong, oblique; and the two anterior ones incurved, obtuse, and adhering to each other.

A very handsome greenhouse climber. The flowers are not lasting, but very profuse. Loam and peat (the former predominating), with a fair portion of sand, are the compost it likes best. Cuttings root freely. It blooms in the winter and spring months.

Barnadesia rosea. *Lindl.* Nat. ord., *Compositæ.*—Native of South America. Shrubby, with slender stems, furnished with spines at the joints. Leaves opposite, or alternate or ternate, entire, nearly lanceolate, tapering gradually into a short petiole, smooth, dark green. Inflorescence capitate, terminal, sessile. Involucre cylindrical, long, dilated at the base. Scales closely imbricated, acutely ovato-lanceolate; those in the upper part almost linear, and longer. Florets strap-shaped, two-lipped; the outer one furnished with four teeth, beautiful rose colour. Anthers united. Fruit hairy. Pappus villous.

A very desirable stove plant. Loam and peat, with a little sand, over plenty of drainage, suit it very well. After blooming it should be well cut in, and induced to grow freely; and when the wood is well ripened, the plant may be allowed a good rest. To bloom it well, it should be started in strong bottom heat, when it will produce foliage, as well as flowers, freely; but without this, leaves are usually scarce when it blooms in winter. It may always be had in bloom in winter, but it also flowers in summer. Cuttings root with great freedom.—S. G. W.

CHEAP GLASS STRUCTURES.

I find that plain rafters answer just as well as rabbetted ones for glazing purposes. About six months ago I puttied four panes, 26 inches by 12, on the rafters of a skeleton shed, erected over a border used for early vegetables; the posts and rafters being fixed for the greater convenience of putting the mats on. It was thought that a high wind would force the panes off; but their having withstood the late gale—almost a hurricane here—is sufficient proof that the plan will answer. In order to make the test as severe as possible, the panes had no support at top and bottom; and the rest of the roof, and front also, was left without any covering. By making the panes nearly meet over the centre of the rafters, none of the wood-work is exposed to the weather, and but the merest line of putty.

I also substituted, for the posts and boarding commonly used for the sides of orchard houses, oak slabs, placed upright, close together; and the wall plate *screwed* to the flat *sides, not on the top.* These slabs are considerably cheaper than larch posts and deal boards, besides being stronger and more durable. The price here—and they may be had cheaper—is 6*s.* 100 feet superficial. About every fourth slab should he hinged to its neighbour, as a door, for ventilation. Thus an orchard house, the sides of which are 4 feet high, and the slabs 6½ feet long (2½ feet in the ground), would cost 6½*d.* for every foot run for the slabs. Add to this the cost of the plate, screws, hinges, &c., and some 2-inch by ½-inch battens to complete the junction of the slabs in those places where they do not quite meet, and the total cost of the sides of the house will not exceed 9*d.* per foot run. Thus a span-roofed orchard house 20 feet by 15 feet, having an area of 300 feet, will not cost more than £15—just 1*s.* a foot; the amateur being his own builder, and there is no difficulty whatever, as I can testify. The rafters for such a house as the above may be cut out of a 7 by 2½ spruce batten, which may be purchased at any timber yard, of the best quality, for 2*d.* a foot or less, and it will make four rafters 3½ inches by 1¼ inch. Strong enough up to 10 feet long.—Abel Nott, *Worcestershire.*

KEEPING PEARS AND APPLES.

We lately mentioned the results of some experiments in keeping Pears, and spoke with some hesitation respecting exposing them in severe weather. Since then, however, we have paid more attention to the subject, and found that both Pears

and Apples took no harm from rather severe frost; one lot of both sorts have been abroad, in a large open flower-pot, from the middle of December to the 1st of March, and they are quite sound; the others are part of those amongst grass, covered with a broken handglass, mentioned at page 132. We can state with confidence, that both lots were repeatedly frozen, and in two instances by 6° of frost—once in January, the other on Candlemas-day. Since then, both Pears and Apples have been often frozen together, during the present bitterly frosty weather; but, of course, we were careful not to touch or handle them in that state.

The Apples were common sorts, mixed with *Beurré Rance*, *Jean de Witte*, and *Suzette de Bavay* Pears; all of which are plump and sound, and not shrivelled like those of the same kinds in the fruit-room.

The Pears on the grass are *Beurré Rance*, *Easter Beurré*, *Suzette de Bavay*, winter *Crassanne*, and *Knight's Monarch*. These are all in an excellent state of preservation, as those already mentioned; and we have to notice, that we kept some *Winter Nelis* Pears the same way until the 12th of January, while the rest of the crop (this really good sort) hardly kept till Christmas.

Thinking that what we had to say on this subject might be disputed, we showed some of our Pears to Mr. J. Cann, of Wymondham, who, we think, is known to Mr. Rivers as a good judge of Pears, and he spoke highly of them, especially the flavour of the *Winter Nelis*. We mention the last more particularly, as being not only contrary to our own previous ideas, but apparently also to those of Mr. Errington, whose knowledge of fruit is superior. In his passing notice of our paper on keeping Pears, he remarks at page 159:—"This, I suppose, was to imitate, as far as possible, the condition a fallen fruit is frequently found in under the tree, having escaped the gatherer, being snugly ensconced amongst the decayed leaves of the trees . . . they are apt to become somewhat insipid in such situations."

We may further notice, that we also exposed, to a week's severe frost, a very fine ripe fruit of Mr. Rivers' new *Easter Beurré*, which we had from Mr. Cann (named above); and, after lying a few hours on a warm flue, its flavour was excellent. Although it was off a standard, it was far superior, in size and flavour, to the old *Easter Beurré* off a wall; but not having *fruited* the new sort, we speak with diffidence as to its identity. We think, however, that enough has been said to show, at least, that stored up Apples and Pears require no extra protection in severe weather; also, that they keep longest in a cool place. And, if we mistake not, Mr. Cobbet mentions that, in America, Apples were often frozen without harm, when kept in the dark; but we have shown that the same may be said of both them and Pears in the light. We should note, that the sun often *shone* upon our Pears under the frail protection.

Connected with this subject, we may notice, that Mr. Inglis, of Kirkmay House, Fifeshire, makes some observations, at page 265, on our previous remarks on *Napoleon* Pears not keeping longer than the middle of December. These are his words:—"He had just eaten a *Napoleon* Pear as sound and as firm as the day it was pulled, only more mellow; had a few more dozens of the same . . . from their present appearance might keep for another month at least." No date is given, but we think that he means the end of January. Is he sure, however, that his *Napoleon* is of the common kind, and not *Napoleon d'Hiver*, or the winter one, which we only know by name; also, that the colour of the wood and buds of both are alike? But, be this as it may, we have grown the old one upwards of twenty years; and seldom, or never, had this excellent Pear keep to Christmas. However, we know something of the climate of Fifeshire, for there we spent "life's early day;" and refer Mr. Inglis to our other paper, on keeping Pears, in No. 484, in which he may see that his statement accords with our remark,—"That some of our best sorts of Pears vary in keeping in different parts of the country."—J. Wighton.

WEEK'S ONE-BOILER SYSTEM.

One of the chief reasons I had, for calling at the Wellington Road Nursery, was to test what I had heard of the heating there with one boiler, before the cold weather was gone; and, I must say, that the system is more complete there, even than in Messrs. Weeks and Co.'s own establishment. The boiler has three upright rows of pipes, and there are four flow-pipes, and four return-pipes from and to it, and five thousand five hundred feet of piping, chiefly four-inch pipes—all are heated most comfortably by this one boiler. The Messrs. Henderson are delighted with the comfort, safety, and economy of the plan. Every one of the numerous pits, and pit houses, have bottom and top heat at pleasure, and the one can be worked without the other. Any house, or pit, of any length, or size, may be divided into three, or four, or a dozen divisions, and any one of the divisions may be worked for Cucumbers, or Pine Apples; while the next, on either side, may be a heathery, or for scarlet Geraniums; and bottom heat can be had for summer in any of the houses, after the glass roof is removed, to grow many kinds of store plants in the open air. If some really practical man, like Mr. Rivers, were to take up the subject of warming the bottom of the borders for certain trees and crops, during the summer months, the result would be as valuable, as his great fact of orchard houses, and this one-boiler system is powerful enough for anything of the kind; but the best proof of both its power, and of its economy, is, that such firms as that of the Wellington Road Nursery, and that of Mr. Smith, at Norwood, have preferred it to all others, for the efficient working of their nursery establishments.—D. Beaton.

A DESCRIPTIVE LIST OF POTATOES.

In describing the many varieties of Potatoes, grown by me within these last few years, and which have been carefully noted by me in my memorandum-book, I beg to say, any further information respecting any of the varieties mentioned, I shall, as far as lays in my power, be happy to give. I should also feel obliged for any further information your able correspondents may be in possession of. Many of the names are, no doubt, local, as I cannot find them mentioned in any list; but when I state my collection came from all parts of the country, the names may be quite familiar to some, and total strangers to others. The varieties of the Potato, as I have before stated, are very numerous; and the same variety of Potato, grown in different parts, has so many different names, that it is difficult to buy a dozen varieties without getting duplicates. I am of opinion that everybody has a favourite variety, and all consider it, as a mother does her infant—the best.

Lapstone, or Haigh's Seedling.—This variety was raised at Leeds, and belongs to the class called "second early." It is a distinct *Kidney*, and often resembles in shape a shoemaker's lapstone. It has a smooth skin, and shallow eye, with a slight tinge of pink at one end. It is an excellent cropper, full size, moderate haulm, and in flavour second to no other *Kidney*.

Walnut-leaved Kidney, a very excellent early variety; the foliage is round, similar to that of the Walnut. This Potato was formerly grown extensively in Somersetshire. It is a full-sized, good cropper; eye well up; moderate haulm; a good cooking variety; and generally escapes the disease.

Albion Kidney.—This Potato is identical with the *Champion Kidney*, sent out by Mr. Tilley, of Bath, and advertised by him, two or three years since, as the best Potato in the world. Although I cannot agree with him on this point, yet I confess it is a desirable variety; early, productive, good shape, moderate haulm, but liable to be attacked by disease.

Jackson's Improved Ash-leaved Kidney.—This variety is a better cropper than the old variety, quite as early, with short haulm; one of the best for frame or early work. It is an excellent plan to encourage this variety to sprout before planting it.

Early Sydenham was raised in the neighbourhood of St. John's, Worcester. This is the best model of a round Potato I have seen; it is full size, very early, productive; eye very prominent; short shiny haulm; tubers slightly tinged with pink; very white, and excellent when boiled. Hitherto quite free from disease.

Early Shaw.—Once a very popular variety. It is a large, coarse, hollow-eyed, yellow-flesh Potato. On some soils it comes good-flavoured and firm, while on others hollow and

worthless. Not a heavy cropper; with moderate haulm; liable to disease. This variety I should not recommend.

Bond's Kidney, or Early Stockton.—This is a valuable early variety, with short haulm, and curly foliage. It is an excellent cropper. Tubers white, full size, good shape, and generally free from disease. This variety is suitable for light or sandy soils.

Irish Apple.—A few years since this variety was extensively grown about Worcester, in consequence of its freedom from disease; it is, however, nearly superseded by the *Fluke*. It is a large, hollow-eyed, mottled Potato; of strong growth, a good cropper, and tolerable good flavour.

White Irish Apple, or Farmer's Glory.—This variety, on some soils, is excellent. It is a deep-eyed, full-sized, round, white Potato; a good cropper, and an excellent keeper; but strong grower.—E. Bennett, *Perdiswell*.

(*To be continued.*)

PLACING A SWARM IN THE STOCKS PLACE.

If those who place the swarm, where the parent stock stood, keep in view the one legitimate result of that procedure, viz., the strengthening of the swarm, by drawing more or less upon the stock, I feel warranted, from my experience in the matter, in affirming that the method will be found to realise their expectations. When failures arise, they are apt to occur in those instances where other ends are sought to be obtained, over and above its true and only one.

In one of my earliest communications to The Cottage Gardener, Vol. XVII., page 81, some slight allusion is made to this subject, in connection with capturing the queen; and, in some strictures which Mr. Wighton made thereon, he condemned the principle, on the ground of its reducing the stock to an useless skeleton. Now, the reduction of the stock to some extent, is both admitted and desired, but that it reduces it to the shadow of what it once was, the experience, not only of myself but others, contradicts, as it can by no means be relied on as a preventive of second swarms (*vide* Mr. Tegetmeier, a few numbers back); and if this practice is followed in the hope of accomplishing this, failures will result. But it is not the plan, but the expectations, that are at fault, in such a case.

I have had cases where no after swarms took place, but it is very doubtful how much this system had to do with this result. Neither is it more certain that they would have swarmed, had they been simply let alone. To reduce the prevention of second swarms to a physical certainty, nothing short of the excision of the royal brood will, in my opinion, be effectual.

Mr. Ferguson says, that the practice with him and others has been attended by a great increase of drones. That an extra quantity of drones have been observed by him, in hives thus treated, I do not question, but I cannot trace a closer connection between cause and effect here, than there is between Tenterden Steeple and Goodwin Sands.

I adopt this practice, and with good results, when striking unicomb hives. I capture the queen of a first swarm, either at the moment of flight (as noticed at volume and page aforesaid), or take her out of the hive when hived. In the last case, after the queen is secured, the parent stock is removed, and the unicomb put in its place; the swarm is then shaken out, and as they begin to return the queen is lodged in her new palace. I have found this plan to simplify and make easy this otherwise troublesome and difficult operation.—D. G. M'Lellan, *Rutherglen, near Glasgow.*

QUERIES AND ANSWERS.

PROPAGATING ŒNOTHERA RIPARIA *alias* PROSTRATA.

"I left, last autumn, some plants of the *Œnothera riparia* in the bed, where they had grown all the summer, and I find that they have put up a quantity of suckers from the old roots. I wish to increase my stock of it, and will you, therefore, kindly tell me whether the roots will bear dividing, and when they ought to be divided? and whether they should be planted again at once in the open ground, or in a frame? What is the right name of this little Œnothera? I have seen it called *riparia*, *reparia*, *vivipara*, and *viperii*. Which is correct?"—H. B.

[The garden name of this *Œnothera* is *prostrata* (trailing), and the other name is spelt *riparia*, and means a plant growing on a bank. Oaks grow on banks; therefore, as the word *riparia* gives no idea of the plant, *prostrata* is the better name. It is the most accommodating plant in England. In six weeks, from the 1st of April, you may make 600 plants from one old plant, which has six shoots, or suckers, rising from the roots, and all these plants will flower not more than ten days later than an old plant would do. If you defer making the cuttings till the shoots from the old plant have formed flower-buds, towards the end of May, and then make cuttings of the flowering tops, they will root in seven or eight days, and will be in full bloom before you part them. That is the secret of getting this *Œnothera prostrata* to do where the soil is too rich, or too damp, for it, causing it to go too much to leaf. It has been recently proved in the Experimental Garden that *Œnothera prostrata* may be grown on or in a Celery trench, in the kitchen garden, and bloom most abundantly to the end of September, by making cuttings of flowering shoots on the old plants, towards the 20th of May. Three or four hundred cuttings were so treated last May. Every *joint* of the shoots on your plant will root in a few days. Then you may cut up the roots just as you would chop Parsley, and sow them as you would Lobelia seeds; and if you do that any day before the 25th of April, every plant of them will bloom from the 1st of June, provided your soil suits it. But to make sure of it, suppose you have 500 plants rooted and established by the 20th of May, top them all, and make the tops into cuttings, and the last plants will bloom as freely on a ridge of rotten dung as the April-struck plants would do on rockwork.]

OUTSIDE BLINDS FOR A GREENHOUSE.

"Will you be kind enough to tell me the best material to use for outside blinds to my greenhouse? I find that, with exposure to the sun and wet, what I have hitherto used perish very quickly. The plan I adopt, for letting them up and down, I like better than any I have seen. It is this—my house is twenty-four feet long, and is a lean-to. The wall is ten feet high. I have two rollers fixed at the front, with a small handle at each end to turn them round. Three cords are attached to each blind—one in the middle, the others at each end, and pass through pulleys fixed at the top of the wall. To these are hung heavy weights, which, when the handle is set at liberty, pull up the blind to the height required. The strain keeps the blind secure in windy weather, and the whole is so simple, it cannot get out of order. My weights run down the back of the wall, but they might be brought inside the house if required, and boxed up. I find the copper cordage the best for this purpose.

"I will also give you a very simple plan I adopt for my shelves, which prevents any *drip* from one shelf to another. I cut an eleven-inch deal in two, and fasten them on the brackets, leaving a space of three quarters of an inch between the two from end to end. I then nail two thin laths in the shape of a **V** under this opening, taking care to give a slight fall to one end; at this end I attach a small piece of gas-piping, and either carry it down to the shelf below, or through the wall, and thus at once get rid of all the superfluous water and grit that will drain from the pots, and is so detrimental to the foliage and flowers beneath. The bracket should be bevelled, so as to allow a slight fall to the centre space.

"Perhaps you will also tell me, what is the best material to use for plunging pots in over an iron tank?"—C. E. Lucas, *Louth.*

[We do not know anything that would suit better for shading, than Tiffany, or Frigi Domo; both are good, but the wearing will depend on the treatment and care. For your plan, you would require stoutish canvass, or calico. We are obliged for your plan of shading, but it has been described in this serial, and is more fitted for large houses, than for one so

small as yours. For such, we should dispense with all such paraphernalia of triple cords, weights, &c. Suppose we covered the house with two blinds, twelve feet in width each, and as long as the width of the house, then we should fasten one end of the blind to the ridge board; and place the other end on a roller two inches in diameter, and thirteen feet long. This would give one foot more than the requisite lengths at each end. On this part, we should wind a rope, longer than the length of the sloping roof, and then, as we pulled the rope to us, the rollers would revolve, and mount the roof. A stout nail, or peg in the wall, to fasten the rope to, would keep the roller steady in any position in moderate weather. A string fastened at the other end would keep it more secure. For such a small house, what would you say to several pieces of bleached calico, pulled up by rings inside, or at once fastened by loops and hooks to the wall plate, and the ridge board, and all inside the house. For a mere greenhouse, such a neat shade might remain the most of the summer, and the light, if the calico was thin, would not be injuriously reduced.

Your idea of the shelf for Strawberries is good as respects neatness, and, no doubt, answers well; but we should prefer, instead of your method of cutting, and lathing, to bevel the board slightly to the centre, and run a grove along its centre, the slightest inclination in the brackets being sufficient to bring the drip to the end desired. Mr. Fraser, at Luton Hoo, by covering his shelves with zinc, and giving them sides, can not only let off such water, but keep as much as he wants of it; and nourishing soil besides, at the bottom of the pots. Mr. Duncan, of Basing Park, also, makes a sort of trough of his shelves for a similar purpose, and has a means of letting off extra moisture, when too abundant.

All things considered, there is no better *plunging medium* than tan, when it can be got, though we have not handled it for years; coal-ashes, sand, &c., are very good, and so, no doubt, would be the cocoa-nut refuse, spoken of by Mr. Beaton, if not too valuable for such a purpose. We chiefly use half decayed leaves, because we can manage to get them the easiest.]

TREE CARNATION CULTURE.

In answer to our Correspondent "Leicester," I beg leave to reply that Tree Carnations may be grown to almost any size. The best I ever saw were in the conservatory belonging to the Earl of Wilton, at Heaton Park, near Manchester. Mr. Shuter, the gardener there, paid great attention to their culture, and the consequence was, immense bushes two feet and a half through, and from three to four feet high, each plant producing scores of blossoms in succession, three-fourths of the year. The way this was accomplished was, by frequent repottings in turfy loam, enriched with well decomposed dung. When the final shifting took place, they were in pots ten inches in diameter To make them yield many shoots, so as to fill such large pots, they were, from the very first, well stopped, and the shoots were tied out nearly horizontally. Central shoots soon sprang up, and then each shoot had a tall slender rod given to it, and as they grew up, they were tied *loosely* to it. When they had grown a foot high they were stopped again, by nipping out each centre, and so on, till they had attained the desired height. No blooms were allowed to open till they became large plants. The bloom then was truly fine, such as would have graced any exhibition in the kingdom.

Propagation.—"Leicester" asks the treatment from seed. I am bound to tell him, that to raise Tree Carnations from seed, for an *amateur*, is a hopeless task. In the first place, I do not know where he could obtain the seed; it is not in any seedsman's catalogue that I have met with, and if he should save seed himself, very likely nine-tenths of the seedlings would come single, and even those that came double might not have the Tree character. It follows, then, that his best plan is to purchase established varieties that are double, and have that peculiar property of branching, which is the characteristic of being Tree or Perpetual Carnations. As they grow up tall, they are not so easy to propagate by layers, but that difficulty may be got over by keeping a plant of each variety close to the soil, using your old plants for that purpose. The best plan, however, is to propagate by pipings. Take these off about June, choosing such as are rather weak, with the bottom of each piping pretty firm; trim off the lowest leaves, and with a sharp knife divide the bottom joint exactly in the centre. The roots will push from each division more readily than if the piping were put in entire. I have rooted pipings in two ways successfully. One was in five-inch pots, filled to within an inch of the top with the ordinary compost, and the other inch with pure white sand. The sand had a gentle watering given it, to make it firm, and as soon as the water had sank through it, the pipings were planted with a small stick, pressing the sand firm to each. Then a second gentle watering was given, and as soon as the leaves were dry, the pots were placed in a frame, on a gentle hotbed, amongst other cuttings, shaded from hot sunshine, and watered when necessary. One fact I ascertained, that pipings of this variety of Carnation strike root more freely than the florists' varieties. The other plan is to plant the piping in sand under a handglass, on a border facing the east. If a layer of fresh dung, a foot thick, is put under the soil and sand in such a border, the gentle heat given out hereby materially helps the rooting of such pipings under the handglass; but that heat renders some care necessary, in giving air, and drying off the moisture that will rise and adhere to the glass.

As soon as the layers or pipings are rooted, they should have plenty of air, and less shade, and should then be taken up carefully, and transplanted into a prepared rich bed, in an open part of the garden. They will form much stronger and more stocky plants in such a situation, than if put into pots at first. Towards the end of October they ought to be lifted with balls, and put singly into five-inch pots, in the compost above described. Should any of them have only one shoot, let the centre be carefully nipped out, to cause side shoots to break out early, and close to the soil. Place the plants under a cold frame, and protect from severe frost, and heavy showers of rain and snow, but on all fine days give abundance of air. Then, in the spring, give a good shift, and continue on till the plants are of a good size, before you allow a single bloom to open. By this treatment, the following spring they will bloom finely, and give the cultivator great satisfaction.

The following selected varieties are well known, and worthy of culture:—

Admiration, dark plum; large and fine.
Attila, clear white ground, striped with bright scarlet.
Beauty, bright rosy pink; very distinct and beautiful.
Belle Zara, bright purplish crimson, edged with white.
Boule de Niegel, pure white.
Cerise Perpetual, bright rose; large and fine.
Coquette, white, edged with pink like a Picotee.
Forge de Vulcan, brilliant scarlet; large and beautiful.
Grenadier, dark buff; distinct and fine.
Grand St. Bruno, dark purple; large, double, and distinct.
La California, pale yellow, striped with carmine.
Madonna, blush, striped and spotted with crimson.
Marquis de Belbœuf, vermilion scarlet; very fine.
Meteor, beautiful dark crimson; large and good; highly fragrant.
Mount d' Or, purplish rose, veined and margined with white.
Phœbus, creamy yellow, shading off to light crimson.
Proserpine, dark crimson; large, very double, and fragrant.
Virginius, bright carmine, striped and spotted with white; good.—T. Appleby.

TO CORRESPONDENTS.

Ranunculuses turning Yellow—Climbers for House Front (*E. M.*).—The "roots" of the Ranunculuses were not sufficiently ripened the previous season, and the heat of the early part of last summer overtook them too soon. You will have a better chance with them this season, and we would recommend you not to disturb them now. Climbers for the front of a house depend on the part of the country where the house is situated; and, as we do not know where your house is, we can only guess for you. The white and yellow Banksian Roses would do, and several of the Tea-scented Roses might be worked on them; against a south wall the new yellow Tea Rose, called *Isabella Grey*, would do well on its own roots, as it is a strong grower; and Mr. Low, jun. tells us that he saw it to perfection in the hot dry air of South Carolina. *Fellenberg* is a free blooming, deep red *Noisette* Rose, for a house front; *Cloth of Gold* is a shy bloomer in many places, and requires a south wall; but *Jaune Despres* seldom fails, and covers very fast, and blooms most profusely; also *Lamarque*. But to recommend climbers for a house, which may be in Devonshire or Ross-shire, would be of no use.

Aster Culture (*A Lady*).—The treatment of China and German Asters for exhibition is very similar to that for late Celery, only not to be planted in trenches. In the first place, do not mess with them in hot-

beds, or pots, nor begin before the middle of April. That is all the secret. The next best way is to treat them *in all respects* like Cauliflowers; the third best is to do them like Brussels Sprouts; and the last way is to sow where they are to flower, like Mignonette. A very slight hotbed, with a couple of handglasses, is better than the best hotbed. Cover the bed with two inches of finely sifted leaf mould, with a small portion of very light soil; press it, sow thinly, and keep down the glass till the seeds sprout; then tilt, and give abundance of air all day. When the plants have four good leaves, prick them out on a bed three inches thick, of one-half very rotten dung and one-half soil, just four inches apart; from that move them to the best and richest piece of ground in the garden.

Australian Seeds (*B. and W.*).—The best way to treat all these seeds would be to make a present of them, for they are not worth the trouble of rearing. A shilling packet of mixed seeds, from some flower garden, would be worth a bushel of them. But if you make a "close hotbed" of a one-light box, with a bottom heat of 75°, all that are alive of your seeds will come up; sow them in any light kind of soil, and prick off the seedlings in three parts peat, one part loam; and, after the plants are well rooted, treat them like Geraniums.

Greenhouse Vinery (*Amateur*).—You should have commenced with 45°. You will not manage Vines and bedding plants too well, in the same house, if you commence so on the 1st of March; but would do so if you delayed three weeks or a month. You ask, however, so many minutiæ, that we shall try and answer more in detail, in a week or two.

Glass for Vinery (*S. C. G.*).—Decidedly, if you use Hartley's Rough Patent, you will want no shading. If you have front lights, most people would prefer crown or sheet glass there, that they might see through it.

Seeds of Aquatic Plants (*J.G.*).—No such seeds are to be obtained. The plants are propagated by division.

White Wash for Labels (*A Lady*).—That sent seems to have been white lead, made very liquid with spirit of turpentine.

Hot Ammoniacal Wash for Trees (*E. M.*).—You have had full particulars from "Upwards and Onwards," and we can only add that he is quite trustworthy.

East Aspect for a late Vinery (*Amateur*).—The aspect is not so desirable as one more south, but it will do very well, especially if you do not attempt to force early. If the south end at least had glass, instead of brickwork, it would be all the better.

Heating a Small Greenhouse (*Herm Matthias*).—For a house twenty-two feet long, fourteen feet wide, and fourteen feet high at the back, sixty feet of two-inch pipe would not enable you to keep out frost in general winters, far less to keep in health such plants as *Passiflora alata*. Such plants may be *kept* safely for short periods, and also Allamandas, from 42° to 45°; but the last should be looked upon as their lowest average during the winter; along with comparative dryness at the roots, and a good increase from sunshine when possible. A safer average would be 50°. We do not fancy two-inch pipes, but would rather never use them less than three inches, for reasons given several times; sixty feet of these will be also insufficient for your purpose. We should like three times as much, or four pipes of four-inch size, and laid almost level, as practised by Mr. Hume, at the Poles. If it was only a greenhouse, from which in severe weather you merely wished to exclude frost, two four-inch pipes would do, or three of three-inch. It is a mistake to suppose, that for such a house hot water will give less trouble, and incur less expense than a flue. You would not like to go to the expense of a large boiler, and when the fire is out the water will soon cool, and much heat will escape by the chimney; but in a flue a great quantity of heat is absorbed by the bricks, and will be given out to the house, even after the fire is out. The fruit of *Passiflora edulis* is good to eat. Your plant, we suspect, was killed by frost before you raised it.

Error.—In Mr. Fish's able communication on "Social Economics," instead of "from Tweed to Fatherland," read "from Tweed to Sunderland."

Petunia British Queen.—The Rev. F. W. Adey, the Cell, Markgate Street, Herts, wishes to obtain cuttings.

Zoophytes.—*A Subscriber* will be obliged by being furnished with Mr. Hall's address.

THE POULTRY CHRONICLE.

POULTRY SHOWS.

April 7th and 8th. Newcastle and Northumberland. *Sec.*, Mr. W. Trotter, South Acomb, near Newcastle.
June 2nd, 3rd, and 4th. Bath and West of England. *Sec.*, Mr. John Kingsbury, Hammet Street, Taunton.
June 28th, 29th, and 30th, and July 1. Sheffield. *Sec.*, Wm. Henry Dawson, Sheffield.
July 8th. Prescot. *Sec.*, Mr. James Beesley.
August 30th and 31st, and September 1st. North Hants. *Sec.*, Mr. T. Moore, Fareham, Hants.

N.B.—*Secretaries will oblige us by sending early copies of their lists.*

OFFICIALS EXHIBITING AT THE POULTRY SHOWS OVER WHICH THEY PRESIDE.

I think much of the ill-feeling, lately displayed in your columns against Mr. W. C. Worrall, is due not only to his attack upon a poultry Judge, who (to say the least) is amongst poultry breeders very popular, but to the fact of reports flying about that are quite as likely to damage the Liverpool Show as Mr. W. C. Worrall.

It is notorious that the two Secretaries of the Liverpool Show almost divided the principal prizes amongst them, while another member of the Committee was a successful candidate also. I am told by good judges that they deserved all their success, and I have no doubt of it myself, from what I know of their birds; but still, is it well that exhibitors should be officials at the same Show? I know not the course at Liverpool, but elsewhere the Committee arrange the placing of the pens, the Secretaries also accompany the Judges, and book their awards; and when other breeders, on the first opening of the doors, rush in to know their fate, they would think no worse of their ill luck if they did not find themselves beaten by the worthy officials, who they see, perhaps, ticketing "Commended" on their unfortunate pens, while the Cups go to the aforesaid Secretaries, or Committee men.

Perhaps, too, at the doors are buyers, who are waiting (in good time) to get the first cheap lot that meet their views; and, although absolutely first spectators of the Show, will find (three seconds after the opening of the doors) "Sold" on several cheap prize pens.

For my own part, I think no exhibitor should have anything to do with arranging the pens; much depends on this: nor should he, or his agent, be allowed to enter before the appointed hour of opening. What say you, Mr. Editor?

I see, in No. 494, a Mr. Gilliver mentioned; also, complaints as to eggs; but let us, as poultry breeders, keep our Shows and names above even a shadow of suspicion, and thus keep our—Honour Bright.

[We think that Mr. Worrall showed great want of judgment in attacking a Judge's opinion at all, publicly: he should have complained to the Committee. But he was still more particularly wrong in attacking Mr. Hewitt's judgment of Hamburghs; for we think we had evidence, last year, that Mr. Worrall not only lauded Mr. Hewitt's knowledge of that variety of poultry, but asked him to purchase for him any which he considered of superior excellence.

We begin to incline to the opinion, that the officials of a Poultry Show should, at that Show, neither directly, nor indirectly, exhibit fowls. We know, during the past year, great disgust expressed at Secretaries carrying off many prizes. There was nothing wrong, probably, in these triumphs; but they had better have been achieved at some other Exhibition. —Ed.]

LIVERPOOL POULTRY SHOW.

If "Fairplay" has no very prudent motive for withholding his real name, and will communicate it through your columns, I shall be happy to reply to his questions about the favour said to be shown to Wm. Gilliver, at Liverpool; otherwise, having an objection to this un-English bush-fighting, I must decline to do so.

I humbly suggest to you, that it would place poultry correspondence on a better footing if all such communications as that of "Fairplay" were withheld until proper signatures are attached, as required in your reply to "J. H.," in "Our Letter Box" of the 16th inst.—W. C. Worrall.

[If "Fairplay" had not sent us his real name and address, his communication would have received the same reply which we gave to "J. H."—Ed.]

HAMBURGH FOWLS AT THE PRESTON SHOW.

Mr. Worrall's letter in The Cottage Gardener, dated 23rd of February, with respect to the judging of Hamburghs, ought to be endorsed by every exhibitor in that class. Let exhibitors of that class of poultry either have a Judge, who understands every point in the Hamburghs, or let them cease to exhibit.

Mr. Worrall's was not the only case, at Preston, where awards were given to birds that were worthless. Now, mark you, I am speaking of the Hamburghs, as I do not understand any other class. At a great many other Shows such has been the case. I have seen first prizes awarded in numerous in-

stances where I would not give 5*s*. for the *pens*, and there were many splendid pens close to them. The consequence has been, that many amateurs have ceased to show, and more will follow their example, unless Committees will take this fact into consideration. I know a number of exhibitors and breeders of this class who went to Preston (though there were not one of them showing a single pen there) for the purpose of seeing the awards. Some went forty, fifty, and even seventy miles, and it was unanimously agreed that it must be a want of knowledge in the Judges, or such blundering could not have taken place. The mistakes were so glaring, that they could never have been made wilfully. The individuals alluded to stand high as breeders and prize-takers, and have done so for a series of years, in the above-mentioned classes.

It cannot be said that I write from a friendship for Mr. Worrall, for I never saw him, or passed with him a word, either written or verbal, in my life; therefore, I write through neither fear nor favour.

Let Judges be appointed with a full knowledge of the classes they are to judge, and then they will give prizes only to the really best birds; they would not dare to stoop to any jobbery. They are a sort of public characters in the poultry world, and must expect to be arraigned before the bar of public opinion for incapacity, or wrong doing. I look upon The Cottage Gardener as the proper and legitimate vehicle to disseminate all knowledge, and adjust all misunderstandings. Its columns are always open to truth and reason.

With respect to grumbling losers, let us have efficient Judges, and they will cease to grumble. The Judges ought never, as a general thing, to reply to fault-finders.—I. H.

[This correspondent has furnished us with his name and address, therefore, we now insert his communication. We do not insist upon every correspondent having his name published; but when he writes critically we do insist upon his confiding to us his name, so that we may judge whether his opinions are entitled to publicity and attention.—Ed.]

THE LIVERPOOL POULTRY SHOW AND ITS HONORARY SECRETARIES.

The explanations given in your paper of March 16th, by Messrs. Moss and Worrall, cannot be considered satisfactory by the main body of exhibitors.

Great allowances must be made for the unhappy position Mr. Moss was placed in, by the recent death of a near relative, but do either of the gentlemen mean us to believe, that if anyone else had been similarly situated, that he would have been permitted to alter his entries, or the name they were placed in? I think not; and if there is one thing that exhibitors have a right to protest against, it is, meddling with the list of entries, after the date of closing, viz., 19th December; and, I therefore think, a grave error was committed by Mr. Moss, in permitting any other name to be inscribed instead of his own. If his birds *ought* not to have been exhibited in his own name, they certainly ought not to have appeared in anyone else's.

I think Mr. Worrall has as much as he can manage, to giving explanations about his own Show, without gratuitously insulting the management of the Preston Show. I have heard of no one, but Mr. Worrall, who was dissatisfied with the judging at Preston; although I have heard of many who have been very dissatisfied with the awards at Liverpool, every year; and I believe, that all readers of last year's Cottage Gardener can easily understand the nature of Mr. Worrall's objections to the judgments at Preston.

I can only say, that Mr. Worrall has no occasion to "regret" the management of the Preston Show, or any other, but that he has quite as much as he can manage, to purge the Liverpool Exhibition from an imputation, which is generally believed, that the Committee, and Judges, and feeders, are much too closely allied, to permit the public to consider the Liverpool Poultry Show "An open Meeting."—An Exhibitor who will not send birds to Liverpool again.

P.S.—I enclose my card and address.

WARNING TO RAILWAY COMPANIES.

Two hens, one belonging to B. J. Ford, Esq., of Exeter, and the other to Mr. Churchill, of Gloucester, were abstracted from their baskets during transmission on the railway from the Hereford Poultry Show. The thefts were committed by an artful felon, for he substituted for those stolen other hens of less value. A reward of £5 is offered for information which may lead to the discovery of the hens stolen, and the detection of the thief. We call him by his right title, though the handbill, with unmerited courtesy, calls him "the party who has tampered with the said birds!"

CHARACTERISTICS OF SILVER DORKINGS —CLAIMS OF DORKINGS.

It is quite clear that every show of poultry is more indebted to the Dorkings for its success, than any other breed of fowls, and yet there is given less money to them than any exhibited. Liverpool and Wellington have introduced a fresh class—to their honour. Why should not Birmingham and the Crystal Palace do the same? The Dorkings started with the understanding that they were to be independent of colour, so that they were well matched, and now almost every colour is excluded, but the Browns, which were first established by Capt. Hornby, in "The Poultry Book." I know our friend Mr. Baily is not prejudiced to colour. I, therefore, hope he will take up the cudgels in our favour—for I am a Dorking breeder—and advocate our cause. He is, of all men, the most capable. Let me hope that we shall not see another Crystal Palace Exhibition, without the Silver Greys in a separate class, which puts me in mind, Mr. Editor, to ask you kindly to inform us what are the necessary points and colours of a Silver Grey Dorking?—Sussex.

[The following are the requisite points in Silver Grey Dorkings:—

Cock.—Black breast and tail; light hackle and saddle, not one white feather to be seen, and no intermixture of red feathers on the saddle or wing.

Hen.—Light grey body feathers, with white shafts; hackle striped black and white; salmon breast.

The claims of the Dorkings to a greater share of the prize money, allotted to a poultry prize-list, has already been advocated in our columns. We know that Mr. Baily has always considered every colour admissible, save Black and White, and we hold the same opinion. We do not know any rule by which Brown birds are excluded, or disqualified. The Judges at Birmingham, last year, were not influenced by colour in any way, and their decisions were well approved.

Seeing that every shade of Cochin, and every distinction of Game fowls, have prizes awarded to them, we have always thought the Dorkings entitled to more consideration than they receive; but we are disposed to leave the distribution in the hands of the Committees.

A larger number of prizes would enable Judges to distinguish both size and colour; but, while the rewards are few, they must be given to pens possessing the chief merits of the breed, and colour is not one of them.]

OUR LETTER BOX.

Breeding Canaries (*A New Subscriber*).—If you refer to the index of our last volume, you will find a list and description of all the varieties. To select is a mere matter of taste. You will see, in the same volume, who took prizes for the best specimens. If you wish for first-class birds, write to the prize-takers, and buy a male bird from one, and a hen bird from another. There is no good book on the subject, but there is much spread through our previous volumes.

Moist Food for Chicks (*J. L. D.*).—You may use either cold or hot water for moistening the barleymeal, but give it to them cold now the weather is mild.

Bird Dealer (*J. G. Dutton*).—We cannot recommend any one in particular. We hear that No. 12 of "The Poultry Book," is not published.

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